

amee  2019

AN INTERNATIONAL ASSOCIATION FOR MEDICAL EDUCATION

# ABSTRACT BOOK

AMEE  
Annual  
Conference



AUSTRIA  
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VIENNA

24th to 28th August 2019

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[www.amee.org](http://www.amee.org)

## Sunday 25 August 2019

Time	Location	Session Type	Session Code	Title of Session	Thread
1730-1915	Hall A/C, Level 2	Plenary	1	Plenary 1: Threshold Concepts and Troublesome Knowledge: a transformational approach to learning	

## Monday 26 August 2019

Time	Location	Session Type	Session Code	Title of Session	Thread
0830-0945	Hall A/C, Level 2	Plenary	2	Plenary 2: Medical Work and Learning in Transition: Toward Collaborative and Transformative Expertise	
1015-1200	Hall A, Level 2	Symposium	3A	Activity Theory & Medical Education	
	Hall C, Level 2	Symposium	3B	Causes & Prevention of Cognitive Errors	
	Hall N, Level 1	Symposium	3C	Diversity Across the Globe	Diversity
	Room L3, Level 1	Symposium	3D	Adapting to the Changing Times in Health Sciences Education	
	Hall M, Level 1	Research Papers	3E	Learning Spaces & Environment	
	Room L6, Level 1	Research Papers	3F	Health Care Implementation	
	Room 1.85-86, Level 1	Point of View	3G	Point of View 1	
	Room 1.61-62, Level 1	Patil	3H	Patil Teaching Innovation Awards 1	
	Room L2, Level 1	Short Communications	3I	Assessment: Self Assessment, Peer Assessment & Portfolios	
	Room 0.31-32, Level 0	Short Communications	3J	Humanities 1	Humanities
	Room 0.14, Level 0	Short Communications	3K	CPD 1	CPD
	Room L7, Level 1	Short Communications	3L	Clinical Teaching	
	Room 0.94-95, Level 0	Short Communications	3M	Student Engagement	
	Room 2.15, Level 2	Short Communications	3N	Competency Based Education	
	Room 2.31, Level 2	Short Communications	3O	Patient Safety	Patient
	Room L1, Level 1	Short Communications	3P	Surgery 1	Surgery
	Room 0.15, Level 0	Short Communications	3Q	Simulated Patients	
	Room 0.16, Level 0	Short Communications	3R	Postgraduate Education 1	Postgraduate
	Room 0.51, Level 0	Short Communications	3S	Teaching & Learning 1	
	Room L5, Level 1	Round Table	3T	Faculty Development	
	Room L8, Level 1	Workshop	3U	Programmatic Assessment in Action	
	Room 0.11-12, Level 0	Workshop	3V	Collaboration in Lifelong Learning	
	Room 0.49-50, Level 0	Workshop	3W	Institutional Ethnography	

Time	Location	Session Type	Session Code	Title of Session	Thread
1015-1200	Room 0.96-97, Level 0	Workshop	3X	Effective Use of Technology to Capture & Report About EPAs	
	Room 2.17, Level 2	Workshop	3Y	How we used Threshold Theory to Address Challenges in Under and Postgraduate Training	Threshold Concepts
	Room 2.44, Level 2	Workshop	3Z	Context is Critical: exploring pedagogies of place in HPE	
	Room 2.61, Level 2	Workshop	3AA	Serious Games Development & Implementation in HPE	
	Room 2.83, Level 2	Workshop	3BB	Development of SJT for Selection, Development & Assessment	
	Room 2.95, Level 2	Workshop	3CC	Virtual/Augmented/Mixed Reality & the New Hologram Based Reality	
	Foyer B, Level 2	ePosters	3DD	Communication	
	Foyer C, Level 2	ePosters	3EE	Workplace-Based Learning	
	Crystal Lounge, Level 1	ePosters	3FF	Patient Perspective & Involvement	Patient
	Hall F and Hall F Foyer, Level 0	Posters	3GG	Empathy & Ethics	
		Posters	3HH	Postgraduate: Assessment/Feedback	Postgraduate
		Posters	3II	Curriculum Subjects 1	
		Posters	3JJ	Management & Leadership	
		Posters	3KK	Student: Self Directed Learning / Career Choice	
		Posters	3LL	Assessment: OSCE	
		Posters	3MM	Postgraduate: Specialty Training	Postgraduate
		Assessment Clinic	3NN	Assessment Policy, Practice and Research Clinic	
1400-1530	Hall A, Level 2	Symposium	4A	Every way of seeing is a way of not seeing: Critical Insights into the Blind Spots of Entrustment Language	
	Hall C, Level 2	Symposium	4B	How to train your dragon: Transforming Faculty Development in Social and Behavioural Sciences	
	Hall N, Level 1	Symposium	4C	From Simulation to Workplace: translating lessons for clinical event debriefings	
	Room L3, Level 1	Short Communications	4D	Teaching & Learning: Team-based Learning	
	Hall M, Level 1	Research Papers	4E	Selection in Health Professions Education	
	Room L6, Level 1	Research Papers	4F	Feedback in Health Professions Education	
	Room 1.85-86, Level 1	PechaKucha™	4G	PechaKucha 1	
	Room 1.61-62, Level 1	Patil	4H	Patil Teaching Innovation Awards 2	
	Room L2, Level 1	Short Communications	4I	Assessment: OSCE 1	
	Room 0.31-32, Level 0	Short Communications	4J	Ethics	
	Room 0.14, Level 0	Short Communications	4K	Curriculum: Social Accountability	
	Room L7, Level 1	Short Communications	4L	Career Choice	
	Room 0.94-95, Level 0	Short Communications	4M	Student in Difficulty	

Time	Location	Session Type	Session Code	Title of Session	Thread
	Room 2.15, Level 2	Short Communications	4N	Curriculum: Learning Environment	
	Room 2.31, Level 2	Short Communications	4O	eLearning 1	
	Room L1, Level 1	Short Communications	4P	Diversity & Gender	Diversity
	Room 0.15, Level 0	Short Communications	4Q	Threshold Concepts	Threshold Concepts
	Room 0.16, Level 0	Short Communications	4R	Postgraduate Education 2	Postgraduate
	Room 0.51, Level 0	Short Communications	4S	Management 1	
	Room L5, Level 1	Round Table	4T	Patient Engagement	Patient
	Room L8, Level 1	Workshop	4U	Reviewing for MedEdPublish – enhancing scholarship	
	Room 0.11-12, Level 0	Workshop	4V	Longitudinal Integrated Leadership Advanced Curriculum	
	Room 0.49-50, Level 0	Workshop	4W	Designing and Developing Shared Curricular Ecosystems	
	Room 0.96-97, Level 0	Workshop	4X	Using Conceptual Framework to Shape & Situate your Scholarly Work	
	Room 2.17, Level 2	Workshop	4Y	Managing & Supporting the Educator in Trouble	Postgraduate
	Room 2.44, Level 2	Workshop	4Z	Digital Health: Bridging the Gap in Medical Education	Postgraduate
	Room 2.61, Level 2	Workshop	4AA	Workplace-based Assessment & Entrustment in the AAMC Core EPA Pilot	
	Room 2.83, Level 2	Workshop	4BB	Writing MCQs to Assess Professionalism & Communication Skills	
	Room 2.95, Level 2	Workshop	4CC	Online Assessment with the Students' own Devices: an evidence based and practical approach to eAssessment	
	Foyer B, Level 2	ePosters	4DD	CPD / Life Long Learning	CPD
	Foyer C, Level 2	ePosters	4EE	Curriculum Development	
	Crystal Lounge, Level 1	ePosters	4FF	Surgery Education	Surgery
	Hall 4 and Hall F Foyer, Level 0	Posters	4GG	Mentoring/CPD	CPD
		Posters	4HH	Professionalism	
		Posters	4II	Curriculum Subjects 2	
		Posters	4JJ	Selection	
		Posters	4KK	Communication Skills	
		Posters	4LL	Student: Emotional Intelligence / Learning Styles	
		Posters	4MM	Postgraduate: Junior Doctors	Postgraduate
	Suite E, Level 0	ASPIRE Clinic	4NN	Meet & Ask the ASPIRE Winners	
1600-1730	Hall A, Level 2	Symposium	5A	Transition from Surgical Training to Surgical Practice: Challenges, opportunities and innovation	Surgery
	Hall C, Level 2	Symposium	5B	Crossing the MedEd Threshold: Gateways to medical education from young educators to young educators	
	Hall N, Level 1	Symposium	5C	Controversies & Challenges in Publishing HPE Research	



Time	Location	Session Type	Session Code	Title of Session	Thread
1600-1730	Room L3, Level 1	Short Communications	5D	Political Realities of Designing & Implementing a Selection System	
	Hall M, Level 1	Fringe	5E	AMEE Fringe 1	
	Room L6, Level 1	Research Papers	5F	Learner Wellbeing	
	Room 1.85-86, Level 1	Doctoral Reports	5G	Doctoral Reports 1	
	Room 1.61-62, Level 1	Short Communications	5H	Curriculum Development	
	Room L2, Level 1	Short Communications	5I	Assessment: OSCE 2	
	Room 0.31-32, Level 0	Short Communications	5J	Teaching & Learning: Lecture / Flipped Classroom	
	Room 0.14, Level 0	Short Communications	5K	Junior Doctor as Teacher	Postgraduate
	Room L7, Level 1	Short Communications	5L	Student: Peer Assisted Learning	
	Room 0.94-95, Level 0	Short Communications	5M	Student Stress	
	Room 2.15, Level 2	Short Communications	5N	Curriculum: Accreditation & Curriculum Evaluation	
	Room 2.31, Level 2	Short Communications	5O	eLearning 2	
	Room L1, Level 1	Short Communications	5P	Teaching & Learning: Anatomy	
	Room 0.15, Level 0	Short Communications	5Q	Global Health	
	Room 0.16, Level 0	Short Communications	5R	Professionalism / Professional Identity	
	Room 0.51, Level 0	Short Communications	5S	Best Evidence Medical Education (BEME)	
	Room L5, Level 1	Workshop	5T	Refugees' & Migrants' Health in Medical Curricula	
	Room L8, Level 1	Workshop	5U	Revealing the Hidden Curriculum & Professional Culture in the Clinical Workplace	
	Room 0.11-12, Level 0	Workshop	5V	Problem Students or Problem Teaching? Exploring approaches to engaging students in their learning	
	Room 0.49-50, Level 0	Workshop	5W	What is your Shape? Understanding the Roles of Types of Expertise in HPE	
	Room 0.96-97, Level 0	Workshop	5X	Bringing the Lay Voice into Medical Education	
	Room 2.17, Level 2	Workshop	5Y	Vibrate to Communicate	
	Room 2.44, Level 2	Workshop	5Z	Integrating Arts & Humanities into Medical Education	
	Room 2.61, Level 2	Workshop	5AA	Clinical Reasoning Assessment in the Workplace	
	Room 2.83, Level 2	Workshop	5BB	Followership - The Forgotten 'Key to Leadership'	
	Room 2.95, Level 2	Workshop	5CC	Using Activity Theory to Maximise Effectiveness of Reflective ePortfolios	
	Foyer B, Level 2	ePosters	5DD	Diversity	Diversity
	Foyer C, Level 2	ePosters	5EE	Assessment	
	Crystal Lounge, Level 1	ePosters	5FF	Teamwork / Interprofessional Education	
	Hall F and Hall F Foyer, Level 0	Posters	5GG	Competency Based Education	
		Posters	5HH	Transition	
		Posters	5II	Game-Based Learning	

Time		Session Type	Session Code	Title of Session	Thread
		Posters	5JJ	Curriculum Strategies / Medical Education Research	
		Posters	5KK	Student: Health & Wellbeing	
		Posters	5LL	Clinical Reasoning & Decision Making	
		Posters	5MM	Postgraduate: Education General	Postgraduate
	Suite E, Level 0	Workshop	5NN	askAMEE: Using technology to support evidence-informed teaching practice	

## TUESDAY 27 AUGUST 2019

Time	Location	Session Type	Session Code	Title of Session	Thread
0830-0945	Hall A/C, Level 2	Plenary	6	Plenary 3: A Call to Action: Patients as Partners in Healthcare Professions Education and Practice	
1015-1200	Hall A, Level 2	Symposium	7A	Expanding the Role of Patients as Partners in Education	Patient
	Hall C, Level 2	Symposium	7B	Understanding Student Behaviour: The role of digital data	
	Hall N, Level 1	Symposium	7C	Transformative Learning: a pedagogy for the health professions	
	Room L3, Level 1	Short Communications	7D	Interprofessional Education 1	
	Hall M, Level 1	Research Papers	7E	Diversity in the Curriculum	Diversity
	Room L6, Level 1	Research Papers	7F	Professionalism & Communication Skills	
	Room 1.85-86, Level 1	Point of View	7G	Point of View 2	
	Room 1.61-62, Level 1	Short Communications	7H	Curriculum: EPAs	
	Room L2, Level 1	Short Communications	7I	Assessment: Written & Progress Test	
	Room 0.31-32, Level 0	Short Communications	7J	Humanities 2	Humanities
	Room 0.14, Level 0	Short Communications	7K	CPD 2	CPD
	Room L7, Level 1	Short Communications	7L	Longitudinal Integrated Clerkships	
	Room 0.94-95, Level 0	Short Communications	7M	Student as Teacher	
	Room 2.15, Level 2	Short Communications	7N	Curriculum: Subjects in the Curriculum	
	Room 2.31, Level 2	Short Communications	7O	Clinical Reasoning	
	Room L1, Level 1	Short Communications	7P	Surgery 2	Surgery
	Room 0.15, Level 0	Short Communications	7Q	Selection: Methods	
	Room 0.16, Level 0	Short Communications	7R	Postgraduate Education 3	Postgraduate
	Room 0.51, Level 0	Short Communications	7S	Teaching & Learning 2	
	Room L5, Level 1	Round Table	7T	Learner in Difficulty	

Time	Location	Session Type	Session Code	Title of Session	Thread
1015-1200	Room L8, Level 1	Workshop	7U	Simulation Journal Club	
	Room 0.11-12, Level 0	Workshop	7V	To Self-Direct or not to Self-Direct? Shining a Light on Curriculum Dilemmas	
	Room 0.49-50, Level 0	Workshop	7W	From Young Teacher to Young Educator: Crystallising educational aspirations into practical steps	
	Room 0.96-97, Level 0	Workshop	7X	Medical Education: The Costs vs the Profits	
	Room 2.17, Level 2	Workshop	7Y	The Cultivation of Cognitive Curiosity: Key for learning, clinical competence, engagement and well-being	
	Room 2.44, Level 2	Workshop	7Z	Burnout Amongst European Junior Doctors	
	Room 2.61, Level 2	Workshop	7AA	Coaching for Professionalism Remediation: Tools for establishing trust, diagnosing learners & creating remediation plans	
	Room 2.83, Level 2	Workshop	7BB	An International Perspective on Testing Accommodations	
	Room 2.95, Level 2	Workshop	7CC	Quality through Innovation in Medical Education	
	Foyer B, Level 2	ePosters	7DD	Professionalism / Ethics / Career Choice	
	Foyer C, Level 2	ePosters	7EE	Simulation / Virtual Patients	
	Crystal Lounge, Level 1	ePosters	7FF	Technology Enhanced Learning 1	
	Hall F and Hall F Foyer, Level 0	Posters	7GG	Faculty Development	
		Posters	7HH	Junior Doctor as Teacher	Postgraduate
		Posters	7II	Curriculum Subjects 3	
		Posters	7JJ	Curriculum: Community & Rural Based Education	
		Posters	7KK	Interprofessional Education 1	
		Posters	7LL	Assessment: Written & Standard Test	
		Posters	7MM	Simulation & Simulated Patients	
	Suite E, Level 0	Meet the Expert	7NN	MedEdPublish Clinic	
1400-1530	Hall A, Level 2	Symposium	8A	Universal Health Education Coverage: Health and education for the global community	Diversity
	Hall C, Level 2	Symposium	8B	Cost & Value in Medical Education	
	Hall N, Level 1	Symposium	8C	The Scope of Faculty Development: How conceptual frameworks can inform educational practices & program evaluation	
	Room L3, Level 1	Short Communications	8D	Teaching & Learning: Games	
	Hall M, Level 1	Research Papers	8E	Learning Teamwork & Methods	
	Room L6, Level 1	Research Papers	8F	Reviews of the Literature	
	Room 1.85-86, Level 1	PechaKucha™	8G	PechaKucha™ 2	
	Room 1.61-62, Level 1	Short Communications	8H	Patient as Educator 1	Patient
	Room L2, Level 1	Short Communications	8I	Assessment: Work Based Assessment	
	Room 0.31-32, Level 0	Short Communications	8J	Faculty Development 1	

Time	Location	Session Type	Session Code	Title of Session	Thread
1400-1530	Room 0.14, Level 0	Short Communications	8K	CPD 3: Recognising a Doctor's Competence	CPD
	Room L7, Level 1	Short Communications	8L	Virtual Patients	
	Room 0.94-95, Level 0	Short Communications	8M	Student Wellbeing	
	Room 2.15, Level 2	Short Communications	8N	Curriculum: Subjects in the Curriculum	
	Room 2.31, Level 2	Short Communications	8O	Transition	
	Room L1, Level 1	Short Communications	8P	Interprofessional Education 2	
	Room 0.15, Level 0	Short Communications	8Q	Selection: Widening Access	
	Room 0.16, Level 0	Short Communications	8R	Postgraduate Education 4	Postgraduate
	Room 0.51, Level 0	Short Communications	8S	Gender	Diversity
	Room L5, Level 1	Round Table	8T	Threshold Concepts	Threshold Concepts
	Room L8, Level 1	Workshop	8U	A Speed Mentoring Workshop: A venue for health professions educators to network and seek advice from experts	
	Room 0.11-12, Level 0	Workshop	8V	How Can Students Improve your Medical School Curriculum?	
	Room 0.49-50, Level 0	Workshop	8W	The A-Z of Curriculum Mapping: Pedagogy to implementation	
	Room 0.96-97, Level 0	Workshop	8X	Development of Institutional Assessment Framework: Practical approaches for postgraduate education	Postgraduate
	Room 2.17, Level 2	Workshop	8Y	Young Medical Educators: Taming Wicked Issues with Adaptive Action	Postgraduate
	Room 2.44, Level 2	Workshop	8Z	How to Use Technology to Demonstrate Scholarship in Medical Education	
	Room 2.61, Level 2	Workshop	8AA	A Whole New Medical Educator for 2025 & Beyond	
	Room 2.83, Level 2	Workshop	8BB	Using Very Short Answer Items for Summative Assessment	
	Room 2.95, Level 2	Workshop	8CC	Next Generation OSCE Checklists: Crowdsource authoring as a tool for developing, modifying and localizing OSCE checklists	
	Foyer B, Level 2	ePosters	8DD	Transitions/IPE Practice	
	Foyer C, Level 2	ePosters	8EE	Teaching - Design, Delivery, Evaluation 1	
	Crystal Lounge, Level 1	ePosters	8FF	Cross-Cultural Programmes / International Students	
	Hall F and Hall F Foyer, Level 0	Posters	8GG	Surgery Education	Surgery
		Posters	8HH	eLearning	
		Posters	8II	Entrustable Professional Activities	
		Posters	8JJ	Clinical Teaching 1	
		Posters	8KK	Curriculum Evaluation/Learning Environment	
		Posters	8LL	Student: Motivation / In Difficulty	
		Posters	8MM	Postgraduate: Evaluation of the Trainee & the Programme	Postgraduate

Time	Location	Session Type	Session Code	Title of Session	Thread
1600-1730	Hall A, Level 2	Symposium	9A	Embracing CPD Diversity: Bridging gaps!	CPD
	Hall C, Level 2	Symposium	9B	Teaching & Engaging the Millennials: What has changed?	
	Hall N, Level 1	Symposium	9C	Local Responses to the Complexities of European Medical Education: Globalization, migration and increased mobility	Diversity
	Room L3, Level 1	Symposium	9D	Pearls from the Surgery Track	Surgery
	Hall M, Level 1	Fringe	9E	Fringe 2	
	Hall M, Level 1	Research Papers	9F	Assessment in Health Professions Education	
	Room 1.85-86, Level 1	Doctoral Reports	9G	Doctoral Reports 2	
	Room 1.61-62, Level 1	Short Communications	9H	Patient as Educator 2	Patient
	Room L2, Level 1	Short Communications	9I	Assessment: General	
	Room 0.31-32, Level 0	Short Communications	9J	Faculty Development 2	
	Room 0.14, Level 0	Short Communications	9K	International Medical Graduates	
	Room L7, Level 1	Short Communications	9L	Medical Education Research	
	Room 0.94-95, Level 0	Short Communications	9M	Student Characteristics	
	Room 2.15, Level 2	Short Communications	9N	Curriculum: Problem Based Learning / Integration	
	Room 2.31, Level 2	Short Communications	9O	Social Media & Mobile Learning	
	Room L1, Level 1	Short Communications	9P	Interprofessional Education 3	
	Room 0.15, Level 0	Short Communications	9Q	Simulation 1	
	Room 0.16, Level 0	Short Communications	9R	Postgraduate Education: Family Medicine	Postgraduate
	Room 0.51, Level 0	Short Communications	9S	Management 2	
	Room L5, Level 1	Round Table	9T	Accreditation & Dimensions of Medical Education	
	Room L8, Level 1	Workshop	9U	Where do I start? Devising Questions, Aims & Objectives When Writing Systematic Reviews: A BEME workshop	
	Room 0.96-97, Level 0	Workshop	9X	Integrating Planetary Health Concepts into the Educational Curriculum	
	Room 2.17, Level 2	Workshop	9Y	Putting Threshold Concepts into Practice in HPE: Changing the way we teach, research & design curricula	Threshold Concepts
	Room 2.44, Level 2	Workshop	9Z	How to Create a Quality Culture – not a Quality Straightjacket	
	Room 2.61, Level 2	Workshop	9AA	Case Based Blended Learning (CBBL)	
	Room 2.83, Level 2	Workshop	9BB	Experience based learning: Helping Patients Co-participate Actively with Students and Clinicians	Patient
	Room 2.95, Level 2	Workshop	9CC	Best Practice Approaches in Assessment from ASPIRE assessment award winners	
	Foyer B, Level 2	ePosters	9DD	Wellbeing	
	Foyer C, Level 2	ePosters	9EE	Teaching - Design, Delivery, Evaluation 2	

Time	Location	Session Type	Session Code	Title of Session	Thread
	Crystal Lounge, Level 1	ePosters	9FF	Student Involvement in Pedagogy & Research	
	Hall F and Hall F Foyer, Level 0	Posters	9GG	Flipped Classroom / Learning Resources	
		Posters	9HH	Problem based learning / Team based learning	
		Posters	9II	Teaching & Learning 1	
		Posters	9JJ	Clinical Teaching 2	
		Posters	9KK	Healthcare Systems / Diversity / International Dimensions	Diversity
		Posters	9LL	Student Stress	
		Posters	9MM	Postgraduate: Stress and Wellbeing	Postgraduate
	Suite E, Level 0	Meet the Expert	9NN	Patient as Educator	Patient

## WEDNESDAY 28 AUGUST 2019

Time	Location	Session Type	Session Code	Title of Session	Thread
0830-1015	Hall A, Level 2	Symposium	10A	Achieving Practice Change Through Outcomes Based CPD	CPD
	Hall C, Level 2	Symposium	10B	The 21st Century Medical Undergraduate Curriculum: What's in and what's out?	
	Hall N, Level 1	Symposium	10C	Case Based Blended Learning (CBBL) – a strategy to foster the transfer of declarative to procedural knowledge, or more?	
	Room L3, Level 1	Symposium	10D	XVII Ibero-American session – Highlighting differences in primary care delivery on the American Continent	
	Hall M, Level 1	Short Communications	10E	Teaching & Learning: Self Directed Learning	
	Room L6, Level 1	Short Communications	10F	International Dimensions	
	Room 1.85-86, Level 1	Doctoral Reports	10G	Doctoral Reports 3	
	Room 1.61-62, Level 1	Short Communications	10H	Patient as Educator 3	Patient
	Room L2, Level 1	Short Communications	10I	Assessment: Licensing Exams / Standard Setting	
	Room 0.31-32, Level 0	Short Communications	10J	Empathy	
	Room 0.14, Level 0	Short Communications	10K	Communication Skills	
	Room L7, Level 1	Short Communications	10L	The Teacher	
	Room 0.94-95, Level 0	Short Communications	10M	Student: Burnout & Resilience	
	Room 2.15, Level 2	Short Communications	10N	Community and Rural Based Education	
	Room 2.31, Level 2	Short Communications	10O	Feedback	
	Room L1, Level 1	Short Communications	10P	Mentoring	
	Room 0.15, Level 0	Short Communications	10Q	Simulation 2	
	Room 0.16, Level 0	Short Communications	10R	Postgraduate: Assessment	Postgraduate
	Room 0.51, Level 0	Short Communications	10S	Teaching & Learning 3	



Time	Location	Session Type	Session Code	Title of Session	Thread
0830-1015	Room L5, Level 1	Round Table	10T	Research	
	Room L8, Level 1	Workshop	10U	Implementation of CBME in Surgery: Challenges from an international perspective	Surgery
	Room 0.11-12, Level 0	Workshop	10V	Constructive Alignment: What Makes Teaching-Learning Interactions Stick?	CPD
	Room 0.49-50, Level 0	Workshop	10W	Deconstructing Competency-Based Assessment in Interprofessional Education & Collaboration	
	Room 0.96-97, Level 0	Workshop	10X	Adaptive Education: Designing & offering education optimized for individual learners & contexts	
	Room 2.17, Level 2	Workshop	10Y	Towards a shared understanding of Threshold Concepts in Global Health in HPE	Threshold Concepts
	Room 2.44, Level 2	Workshop	10Z	Medical Humanities: Education & Practice	Humanities
	Room 2.61, Level 2	Workshop	10AA	Achieving Patient-oriented Care with an Interprofessional Team: Implications for the educational process	
	Room 2.83, Level 2	Workshop	10BB	How to Introduce High Quality Team-based Learning into the Curriculum	
	Room 2.95, Level 2	Workshop	10CC	Artificial Intelligence in Medical Education: A practical guide	
	Foyer B, Level 2	ePosters	10DD	Self-Regulation / Metacognition / Coaching	
	Foyer C, Level 2	ePosters	10EE	Simulation	
	Crystal Lounge, Level 1	ePosters	10FF	Technology Enhanced Learning 2	
	Hall F and Hall F Foyer, Level 0	Posters	10GG	Patient as Educators / Patient Safety	Patient
		Posters	10HH	Humanities	Humanities
		Posters	10II	Curriculum: Development	
		Posters	10JJ	Teaching & Learning 2	
		Posters	10KK	Interprofessional Education 2	
		Posters	10LL	Assessment: Clinical, Peer & Self Assessment	
		Posters	10MM	Student: Engagement / Peer Assisted Learning / Student as Teacher	
1045-1230	Hall A/C, Level 2	Plenary	11A	PechaKucha™ Presentations & Plenary 4	
		Plenary	11B	Plenary 4: ICAP: How to Promote Deeper Learning by Engaging Students Constructively and Co-constructively	

## #1 Plenary 1

**Date of Presentation:** Sunday, 25 August 2019

**Time of Presentation:** 1800-1850

**Location of Presentation:** Hall A/C, Level 2

### Threshold Concepts and Troublesome Knowledge: a transformational approach to learning

**Professor Ray Land, University of Durham, UK**

**Summary:** This presentation explores how the Threshold Concepts Framework might offer medical educators new perspectives in terms of how they design curricula, approach teaching and support learners. Threshold Concepts, akin to a portal, open up previously inaccessible ways of thinking about phenomena and lead learners into new conceptual, affective and ontological terrain. As 'jewels in the curriculum', they are central to ways of thinking and practising within a discipline. But this entails encounters with 'troublesome knowledge' and may leave learners in a state of 'liminality', a suspended state or 'stuck place' in which understanding might approximate to a kind of 'mimicry'.

**Biography:** Ray Land is Emeritus Professor of Higher Education and Emeritus Fellow of University College at Durham University. He has published widely in educational research, including works on academic development, learning technology and quality enhancement. He has acted as consultant for the OECD, the European Commission and the British Council and recently conducted projects in Europe, Latin America and India. He has presented on his research in over fifty countries across six continents. He is a Fellow of the Academy of Social Sciences, Fellow of the Royal Society of Arts and Principal Fellow of the Higher Education Academy.



## #2 Plenary 2

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 0830-0915

**Location of Presentation:** Hall A/C, Level 2

### Medical Work and Learning in Transition: Toward Collaborative and Transformative Expertise

**Yrjö Engeström (Professor of Adult Education and Director of the Center for Research on Activity, Development and Learning (CRADLE) at University of Helsinki and Professor Emeritus of Communication at University of California, San Diego)**

**Summary:** Drawing on cultural-historical activity theory, this talk recasts expertise as fluid collaboration on complex tasks requiring envisioning the future and mastering change. Expertise is increasingly taking the shape of collaboration between practitioners and patients from multiple backgrounds. Such collaborative expertise must also be transformative, able to tackle emerging new problems and changes in organizational frameworks. The transition toward collaborative and transformative expertise is led by three spearheads: collective object-oriented activity systems; flexible knotworking; and expansive learning of new patterns of activity. The presentation builds on 30 years of interventionist research in medical work and learning, summed up in the new book *Expertise in Transition: Expansive Learning in Medical Work* (Engeström, 2018).

**Reference:** Engeström, Y. (2018). *Expertise in transition: Expansive learning in medical work*. Cambridge: Cambridge University Press.

**Biography:** Yrjö Engeström is Professor Emeritus of Adult Education at University of Helsinki and Professor Emeritus of Communication at University of California, San Diego. He is Director of the Center for Research on Activity, Development and Learning (CRADLE), and serves as visiting professor at Rhodes University in South Africa and at University West in Sweden. In his work Engeström applies and develops cultural-historical activity theory as a framework for the study of transformations in educational settings and work activities, with a particular focus on health care. He is known for his theory of expansive learning and for the methodology of formative interventions, including the Change Laboratory method. Engeström's most recent books are *From Teams to Knots: Activity-Theoretical Studies of Collaboration and Learning at Work* (2008), *Learning by Expanding: An Activity-Theoretical Approach to Developmental Research*, 2nd Edition (2015), *Studies in Expansive Learning: Learning What Is Not Yet There* (2016), and *Expertise in Transition: Expansive Learning in Medical Work* (2018), all published by Cambridge University Press.

## #3A Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1200

**Location of Presentation:** Hall A, Level 2

### Activity Theory and Medical Education: Foundations, findings and future perspectives

**Presenters:**

- Yrjö Engeström, The Center for Research on Activity, Development and Learning, University of Helsinki, Finland (speaker)
- Alan Bleakley, Faculty of Medicine and Dentistry, University of Plymouth, UK (speaker)
- Tim Dornan, The Queen's University, Belfast, UK (speaker)
- Loes Meijer, Julius Center for Health Sciences and Primary Care, University Medical Centre Utrecht, the Netherlands (speaker)
- Eeva Pyörälä, Center for University Teaching and Learning, University of Helsinki, Finland (moderator)

**Summary of theme and why it is important:** Professor Yrjö Engeström is an internationally leading figure in Activity Theory, which is one of the featured topics at AMEE 2019. He developed expansive learning, an interventionist and participatory research approach, to studying change in complex organizations. AMEE will have the privilege of hosting a plenary lecture by Professor Engeström during AMEE. He has kindly agreed, also, to join researchers who have drawn on his ideas in providing a symposium, which will allow delegates to learn more about Activity Theory from illustrative examples, ask questions in a plenary discussion, and consider its implications for their educational practice.

Participants will gain theoretical and practical insights into applying Activity Theory to education research in complex clinical workplace environments and to the education of healthcare professionals. These types of studies actively involve all stakeholders, including patients, in collective problem-solving and boundary-crossing. This advances the activities of organisations while positively changing their cultures.

Speakers will share their experience of applying Activity Theory to demonstrate applications of theoretical foundations accessible to participants, stimulating discussion about the future directions of socio-cultural research and expansive learning.

Professor Yrjö Engeström, whose expertise spans a wide range of educational contexts, will examine what Activity Theory and expansive learning have to offer our field. Professor Alan Bleakley will bridge Activity Theory and educational practice by examining the introduction of humanities into a medical undergraduate curriculum. Professor Tim Dornan will use Activity Theory as an interpretive lens to examine an educational programme, in which patients and members of the various clinical disciplines caring for them co-produced change. Doctor Loes Meijer will describe how she has used Engeström's change laboratory technique to study the learning of medical specialists and general practitioners during collaborative patient care.

We will encourage AMEE delegates to share their views of and passion for medical education research and explore new and revitalising directions for future studies.

**Who should participate in the symposium?** This symposium will be beneficial to all delegates interested in medical education research, and particularly for scholars interested in studying learning in complex organizations in change and involving participants in the research process. The symposium will be of interest to researchers and academics at all levels.

**What will you gain from participating?** Participants in the symposium will gain:

- Scholarly understanding of the potential Activity theory and expansive learning offer to medical education research.
- Insights into a powerful approach to exploring learning in complex settings such as clinical workplaces.
- Inspiration to involve patients and carers as active participants in medical education and research.

## #3B Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1200

**Location of Presentation:** Hall C, Level 2

### **Causes and prevention of cognitive errors (diagnostic error). How will they inform our methods of teaching this to our learners? Is this possible?**

**Presenters:**

- Dan Mayer, Retired from Albany Medical College, USA
- Michelle Daniel, University of Michigan Medical School, USA
- Robin Hemphill, University of Michigan Medical School, USA
- Sorabh Khandewal, Ohio State University Medical College, USA
- Sandra Montiero, McMaster University, Canada
- Geoff Norman, McMaster University, Canada

**Summary of theme and why it is important:** Diagnostic errors frequently cause adverse outcomes in medicine. The causes of most diagnostic errors and proposed methods of preventing them should be taught to our learners across the medical curriculum. The current debate is whether we can give our learners adequate training in recognizing potential cognitive ‘traps’ that lead to diagnostic errors? Or, should we explore “just in time” approaches like content-specific checklists? Do we need to put more of our educational effort into honing the learner’s skills in ‘pattern recognition’ by increasing their experience in managing various cases? The workshop will present this debate through case presentations informing the discussion to explore competing approaches to this problem.

**Who should participate in the symposium?** This is aimed at medical educators at all levels of medical education (UGME, GME and CPD). It will specifically be useful for faculty who develop clinical reasoning courses in medical school and residency. It will also help those who supervise medical students, residents or practicing physicians in their clinical work. It will also help researchers interested in studying clinical reasoning and cognitive error prevention in diagnosis.

**What will they gain from participating?** Appreciation of the controversy between teaching cognitive science and causes of diagnostic errors (‘debiasing’ and ‘diagnostic time outs’) compared to ‘just in time learning’ and content specific checklists. The discussion will clarify how these perspectives could improve clinician diagnosis and what unforeseen consequence might occur. Create unique mechanisms to teach techniques to reduce diagnostic error in various educational environments. What current research is most likely to inform the optimal education our learners require to prevent diagnostic errors?



## #3C Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1200

**Location of Presentation:** Hall N, Level 2

### Diversity across the globe: Sharing experiences and challenges with equity and inclusion in medical education

**Presenters:**

- Anna Vnuk, School of Medicine, College of Medicine and Public Health, Flinders University, Adelaide, Australia
- Sabine Ludwig Charité - Universitätsmedizin Berlin, Institute of Medical Sociology and Rehabilitation Science, Germany
- Maaïke Muntinga, School of Medicine, Amsterdam UMC-location VUmc, the Netherlands
- Stephanie Okafor, School of Medicine, Amsterdam UMC-location VUmc, the Netherlands
- Arianne Teherani, Center for Faculty Educators, University of California, San Francisco School of Medicine, USA
- Brahm Marjadi, School of Medicine, Western Sydney University, Australia
- Margot Turner, St George's University of London, UK

**Summary:** We understand the need to address diversity in medical education and health care as a social justice issue and a basic tenet of quality of education and health care. Unfortunately, medical education lags behind in its efforts to create and sustain a diverse and equitable learning environment, and thus perpetuates structural and economic disparities. For instance, although many medical schools globally are committed to enrolling a diverse student body, increased diversity does not imply equity once students are enrolled; students from diverse backgrounds encounter obstacles to success including academic and learning environment pressures. At the curriculum level, medical education is slow to critically investigate for whom and under which conditions the knowledge it incorporates is 'true', and many schools overlook the increasing body of knowledge on diversity and health, including but not limited to sex and gender issues, ethnicity/race, ageism, and (dis)ability, as well as their intersectionality. These absences indicate the presence of barriers manifested in policies, practices, and norms within our institutions. In order to create societal change and prepare a diverse body of future doctors to provide health care for a diverse body of patients, medical education itself needs to change. The aims of this symposium are to share and discuss initiatives, experiences, and research on the far-reaching ways medical schools promote equality and equity.

In this interactive symposium, a range of advocates for diversity in medical education from across the globe, including medical students, will address a range of issues in teaching and learning about a range of 'different differences' and their intersections. We present four topics in short presentations. First, Dr. Maaïke Muntinga and Stephanie Okafor will present experiences and challenges with involvement of students in medical education projects. Second, Dr. Arianne Teherani will discuss internal change in schools. Third, Dr. Brahm Marjadi will share experiences on mainstreaming diversity with the support of community partners and hospital-based clinicians. Finally, Margot Turner will present different approaches to assessing diversity, and the feedback on assessment from staff and students. Next, we will introduce practical examples, for instance video-art to discuss in- and exclusion in medical education, the critical-incident-in-the-classroom exercise, a checklist on diversity at the institutional level, or what an OSCE to assess diversity looks like. In doing so, we will have addressed diversity at three distinct levels (Schiebinger, 2008):

1. Fixing the numbers refers to the composition of the student body in medical schools or to the numbers of female and minority students and staff in education, teaching, research, and management, thus, to 'body counts' and equal opportunity.
2. Fixing the institutions refers to learning climates and organizational culture of medical schools: to legal regulations and professional standards, for instance whether admission policies are dedicated to equality, but also to unspoken assumptions and values behind ways of doing and behind claims of neutrality and objectivity.
3. Fixing the knowledge emphasizes exclusion in our knowledge base. At this level, we focus on curricular and knowledge content, on implementing knowledge in the curriculum, and on assessment.

The symposium will discuss experiences across the globe at each level and suggest several tried and tested approaches.

**Who should participate in the symposium?** Students, faculty, leaders, medical educators, researchers who

- are interested in and curious about learning about initiatives and programs to improve equity and inclusion in medical education;
- would like to address diversity and are in need of inspiration, ideas and tools;
- are willing to share and exchange their experiences in addressing diversity; and
- desire to be part of an international network (International Community of Practice on Diversity, Equity and Inclusion in Medical Education).

**What will they gain from participating?** Participants will

- gain insight and ideas in how to address diversity at different levels;
- gain the experience of sharing and listening to others about diversity;
- learn from global colleagues with different backgrounds and perspectives;
- bring back knowledge, reflections, tools and resources to their institution, and;
- have the opportunity to participate in an international network of researchers and educators who work on and have experience in diversity in medical education (ICoP Diversity, Equity and Inclusion in Medical Education).



## #3D Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1200

**Location of Presentation:** Room L3, Level 1

### Adapting to the changing times in health sciences education

#### Presenters:

IAMSE Symposium

- Peter GM de Jong
- Sandy Cook
- Neil Osheroff
- Cathy Pettepher
- Rick C Vari

**Summary:** Health sciences education is always in motion. New educational strategies are being explored, new technologies are being introduced and curricula are modernized. Also society is changing requiring different roles and skills of the future health care provider. As a result the roles of both educator and student in health professions education are constantly changing. This symposium will highlight a few of the current developments and will discuss its implications with the audience.

#### Presentations:

Cathy Pettepher: The Educational Roles of Basic Scientists in the Clinical Years

Richard C Vari: Curricular Innovations and their Impact

Sandy Cook: Using a Flipped Classroom Model to create an engaging learning environment

Neil Osheroff: Effects of changing educational roles on faculty identity

## #3E Research Papers: Learning Spaces and Environment

### 3E1 (16)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1035

**Location of Presentation:** Hall M, Level 1

### “I feel like I sleep here”: How space and place influence medical student experiences

#### AUTHOR(S):

- Lorraine Hawick, Centre for Healthcare Education Research and Innovation, University of Aberdeen, UK (Presenter)
- Jennifer Cleland, Centre for Healthcare Education Research and Innovation; School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, UK
- Simon Kitto, Department of Innovation in Medical Education, University of Ottawa, Canada

#### ABSTRACT

**Introduction:** Buildings and learning spaces contribute in crucial ways to peoples’ experiences of these spaces. However, this aspect of context has been under-researched in medical education. We addressed this gap in knowledge by using the conceptual notions of space and place as heuristic lenses to explore the impact of a new medical school building on student experiences.

**Methods:** We carried out an exploratory case study to explore the impact of a new medical school building on student experiences. Data were collected from: archived documents (n=50), interviews with key stakeholders (n=17) and focus group data from students (n=17 [participants]); to provide context and aid triangulation. Data coding and analysis were initially inductive, using thematic analysis. After themes emerged, we applied the concepts of boundary objects, liminal space and Foucault’s panopticon to provide a framework for the data.

**Results:** There was a specific vision and intentions for the place (the location) and space (the facilities) of the new medical school building (e.g., positioned to facilitate flow between educational and clinical settings). However, the unintentional consequences of the planning were that students felt disconnected from the wider university, trapped on the healthcare campus, and under pressure to behave not like students but in a manner that they believed was expected by clinical staff and patients.

**Discussion:** Despite much effort and a focus on creating an idyllic space and place, the new medical school had both positive and (unintentionally) negative impact on student experiences. These findings highlight the importance of reflecting on, and exploring, how space and place may influence and shape students’ learning experiences during the formative years of their professional identity, a necessary consideration when planning new medical school learning spaces or changing these spaces.

**Conclusions:** The current study joins an existing conversation on the topic of the space and place of learning in medical education (1). Our empirical data expands this conversation, providing insight into the process of implementing the vision of a new learning space and the resultant experiences and perceptions of students studying in that place. We have shown that ‘place is remarkable, and what makes it so, is an unwindable spiral of material form and interpretative understandings or experience’ (2) (p.471). We urge those involved in planning medical school spaces to continue this discussion by considering how reflecting on, and exploring, how space and place may influence and shape students’ learning experiences.

#### References:

1. Nordquist J. Alignment achieved? The learning landscape and curricula in health profession education. *Med Educ.* 2016;50(1):61–8.
2. Gieryn TF. A Space for Place in Sociology. *Annu Rev Sociol.* 2000;26(1):463–96.

## #3E Research Papers: Learning Spaces and Environment

### 3E2 (23)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1035-1055

**Location of Presentation:** Hall M, Level 1

### Using Activity Theory to interpret students' experiences of learning clinical reasoning

#### AUTHOR(S):

- **Megan Anakin, University of Otago, Dunedin, New Zealand (Presenter)**
- Madelyn Jouart
- Julie Timmermans
- Ralph Pinnock

#### ABSTRACT

**Introduction:** The importance of clinical reasoning in medical practice is well-established. Students find learning clinical reasoning skills challenging. Descriptions of how students learn clinical reasoning can be viewed from a deficit perspective where difficulties are emphasised and perceived as problems requiring remediation with individual students. Alternatively, descriptions of how students learn clinical reasoning skills can be viewed from the lens of Activity Theory<sup>1</sup> where student learning may be explained as collaborative attempts for students to participate in workplace activity. This sociocultural perspective, can be used to interpret descriptions of students' learning experiences as one or more activity systems that promote and/or inhibit students' participation in medical practice. This perspective can also be used by clinical teachers to better understand how they can provide opportunities for students to co-construct their clinical reasoning skills with them.

**Methods:** This study aimed to interpret the learning experiences described by medical students from an Activity Theory perspective as promoting or inhibiting their participation in using, and co-constructing, their clinical reasoning skills. This qualitative study was conducted with 25 final-year undergraduate medical students at the Dunedin School of Medicine, University of Otago, in New Zealand. Interview data were first analysed thematically using a general inductive approach, then findings were analysed with Activity Theory<sup>1,2</sup> and concepts of participation and co-construction.

**Results:** Five themes resulted from the general inductive analysis: 1) practicing with undifferentiated patients; 2) teachers who were willing to make thinking explicit; 3) a lack of independence and involvement; 4) a lack of communication and feedback; and 5) confusion from different sources of information. When the findings were analysed with Activity Theory, they could be explained as arising from synergies and conflicts between two activity systems: medical practice and schooling. Learning experiences that students described as helpful could be explained when the goals of patient care and learning clinical reasoning were in harmony. Unhelpful experiences could be identified when the workplace demands of providing immediate patient care were tacitly used the health care team. This use was at odds with the learning needs of the student for more overt and deliberate explanations, and the time they needed for rehearsing their clinical reasoning skills with clinicians and patients.

**Discussion & Conclusion:** This study adds to the growing literature where the process of learning is viewed from an Activity Theory perspective. The Activity Theory interpretation of findings from this study offers an original and enriching perspective for clinical educators to understand how they teach and how students learn clinical reasoning. Clinical educators may find the themes identified from students' experiences learning in medical workplace environments useful to for understanding why some of their students may struggle to develop their clinical reasoning skills. Findings may also provide educators with new insights about challenges students may face when they are learning how to participate productively in medical practice. Clinical educators can interpret experiences of learning clinical reasoning gathered from students in their own institutions by examining them as elements in one or more activity system. In this way, synergies and conflicts can be identified that promote and inhibit students' ability to participate in medical practice.

#### References:

1. Engstrom Y. Activity theory as a framework for analyzing and redesigning work. *Ergonomics*. 2000; 43(7):960-74.
2. Engström Y, Sannino A. Discursive manifestations of contradictions in organizational change efforts: A methodological framework. *J Org Change Manag*. 2011; 24(3):368-87.

## #3E Research Papers: Learning Spaces and Environment

### 3E3 (129)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1055-1115

**Location of Presentation:** Hall M, Level 1

### The pedagogical encounters and learning environment on a student unit in Sweden: an observational study

#### AUTHOR(S):

- Anna Dyar, Department of Clinical Sciences Danderyd Hospital, Karolinska Institutet, Stockholm, Sweden (Presenter)
- Hanna Lachmann, Department of Learning, Informatics, Management and Ethics, Karolinska Institutet, Stockholm, Sweden
- Terese Stenfors, Department of Learning, Informatics, Management and Ethics, Karolinska Institutet, Stockholm, Sweden
- Anna Kiessling, Department of Clinical Sciences Danderyd Hospital, Karolinska Institutet, Stockholm, Sweden

#### ABSTRACT

**Introduction:** Worldwide, a growing number of healthcare students require clinical environments that enable high quality learning. Some inpatient wards are being adapted to become student units as a way of meeting this demand. Many benefits of student units have been reported from the students', supervisors' and patients' perspectives. However, little research has focussed on exploring what a student unit actually is. They are heterogenous and go by different names including: Clinical Education Wards; Inter-professional Training Wards; Dedicated Education Units; Student Training Wards. No formal definition of a student unit exists, and there is no specification of requirements for a ward to be a student unit. A deeper understanding of what student units are characterised by is necessary to identify their reasons for success, and to maintain and expand their use for clinical learning. The aim of this study is to describe the pedagogical encounters that occur on a student unit and what characterises the learning environment.

**Methods:** An observational study was performed on a student unit at an acute teaching hospital in Stockholm, Sweden. The student unit was set up in 2015 with a focus on student nurses, with increased staffing, a dedicated student room, and a supervision model where student nurses care for patients in pairs. The unit usually has 4 student nurses, a medical student, and sometimes a healthcare assistant student. Observations were combined with short, informal questioning and collection of audio-recordings of student reflections. Observations were non-participatory, performed by a single researcher, who had no connection to those being observed. This took place over a six-month period, including 85 total hours over 17 different shifts. In total, over 300 activities (for example conversations, learning events) were observed, with over 30 informal questionings and three audio reflections. Field notes and audio reflections were transcribed. Thematic analysis was used to identify themes that described the pedagogical encounters and learning environment in a student unit. The analysis was discussed among all four authors and consensus was reached.

**Results:** Four themes were identified that characterised the pedagogical encounters and learning environment on the student unit: "Real life learning" describes how students learned by actively doing clinical tasks, and that their learning was guided by actual clinical events rather than pre-selection, and that students took responsibility both for the patients and for their own learning. "Learning together" described the peer interactions between the students for learning, and the supervision of these peer interactions. "A personalised approach" described the personalised relationships between the students and staff, and the build-up of trust in the student-supervisor relationship. "Learning as an integral part of the daily life on the ward" described the unified inter-professional approach to teaching, the facilitation of learning by the dedicated student room and the staff's own lifelong learning.

**Discussion & Conclusions:** This study described features of one adapted student unit. Four themes describe features that were enabled through a community of practice: the shared view of learning as a priority for this community enabled staff to provide clinical care without compromising the students' learning environment. In addition, both physical features such as the presence of a student room, and a student-orientated organisational set-up were notable characteristics. This qualitative study at a single centre lays the groundwork for future research to investigate other student units and how these characteristics affect student learning.

## #3E Research Papers: Learning Spaces and Environment

### 3E4 (216)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1135

**Location of Presentation:** Hall M, Level 1

### International partnerships for medical education: An evaluation of the International Institute for Medical Education Leadership (IIMEL)

#### AUTHOR(S):

- **Fabiola Aparicio-Ting, Cumming School of Medicine, University of Calgary, Canada (Presenter)**
- Angela Tucker, Anthropology, University of Calgary, Calgary, Canada
- Heather A. Baxter, Cumming School of Medicine, University of Calgary, Calgary, Canada
- Gwendolyn L. Hollaar, Cumming School of Medicine, University of Calgary, Calgary, Canada

#### ABSTRACT

**Introduction:** There has been an increased commitment to global partnerships to strengthen health systems in low- and middle income countries (LMICs) in the recent years. In particular, building medical professions capacity to reduce the high burden of disease in these countries depends on strengthening medical education pedagogy and leadership to empower LMIC partner institutions to design locally sustainable health solutions and medical training processes. The Cumming School of Medicine at the University of Calgary, Canada, has partnered with a number of LMIC institutions whom have identified a need for professional development of leadership in medical education. In response, the International Institute for Medical Education Leadership (IIMEL) brought together medical education leaders from several LMIC partner institutions for two weeks of intense faculty development. IIMEL was designed to develop leadership skills, improve medical education skills, and encourage collaboration between international partners through interactive workshops, site visits and one-on-one consultations around partner-identified needs and interests. To our knowledge, this event is the first of its kind; therefore, there was a commitment to evaluate IIMEL's effectiveness. More specifically we wanted to answer the following questions: 1) What were the learning experiences of IIMEL participants?; and 2) Were the various IIMEL activities effective?

**Methods:** Given the diversity in participant backgrounds, abilities, and needs, an evaluation framework was designed to evaluate IIMEL in ways that were holistic and ethnographic with a focus on capacity building in LMIC partner countries. The evaluation team included two medical educators, a social epidemiologist and education researcher, and a cultural anthropologist. Qualitative data from participant observations and semi-structured interviews were analyzed using thematic analysis. These data were triangulated with quantitative data collected using a validated workshop evaluation tool [1] to interrogate the contextual elements of IIMEL and the variation in experience between IIMEL participants.

**Results:** Nineteen medical education leaders from eight LMIC partner institutions attended IIMEL. Participants reported a positive learning experience and budding collaborations with other participants that they reported to have impacted their medical education approaches and leadership roles. Six overarching themes emerged that can inform the design of international partnerships for medical education capacity building: pre-event preparation, the potential for cognitive and scheduling overload, the importance of the physical learning environment, opportunities for relationship building, cultural considerations and locally relevant applications, and mitigating exhaustion.

**Discussion & Conclusions:** Initiatives like IIMEL can be an effective way of increasing medical education skills and capacity in LMIC institutions. Our findings indicate that there are important considerations when designing medical education capacity building interventions for international audiences, particularly with participants who have been teaching for many years in unique, resource limited settings. Strengthening medical education skills in LMIC partner institutions has the potential to improve the quality of medical training programs, furthering their ability to respond to local health challenges. Given that each global partnership is unique, institutions planning such capacity building initiatives should consider evaluating their effectiveness in their context. Our evaluation used a novel framework that focuses on an ethnographic understanding of an LMIC capacity building experience. The interdisciplinary evaluation team, and multiple sources and types of data were an asset and enhance the richness of the evaluation. The result is a holistic assessment of the outcomes and experiences related to participating in IIMEL, which can inform the design of similar medical education skills and leadership events.

#### References:

1. J Wood T, Marks M, Jabbour M. The development of a participant questionnaire to assess continuing medical education presentations. Medical Education. 2005 Jun;39(6):568-72.



## #3E Research Papers: Learning Spaces and Environment

### 3E5 (249)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1135-1155

**Location of Presentation:** Hall M, Level 1

### International short-term placements in health professions education – A meta-narrative review

#### AUTHOR(S):

- Birgit Fruhstorfer, Warwick Medical School, Coventry, UK (Presenter)
- Frances Griffiths, Warwick Medical School, Coventry, UK
- David Davies, Warwick Medical School, Coventry, UK

#### ABSTRACT

**Introduction:** Globalisation has changed the context, in which health care is delivered. In order to be prepared for professional practice in a globalised world, health professions students need to be equipped with a new set of knowledge, skills and attitudes. Experiential learning gained during an international placement has been considered as a powerful strategy facilitating the acquisition of global competencies. Although international experiences have been shown to have a number of educational benefits, various challenges, such as ethical concerns and safety risks, may compromise the learning in such setting.

The aim of this review was to synthesize empirical studies examining the process and outcomes of international short-term placements in health professions education.

**Methods:** A systematic review was conducted using a meta-narrative approach. This relatively new method was developed by Greenhalgh (1) and draws on Kuhn's notion of a scientific paradigm. Within a paradigm researchers look at the world through the same lens, which shapes problems of interest and research approaches. The initial unit of analysis is the meta-narrative, which is a series of studies within a paradigm.

Six electronic databases were searched for eligible studies in September 2016: Medline, Embase, CINAHL, PsychINFO, Education Research Complete and Web of Knowledge. The search was further supplemented by backward and forward citation tracking. The literature search was updated in January 2018. Iteratively the review was focused on international placements in socio-economically contrasting settings in undergraduate education. Studies were grouped into 3 meta-narratives according to professional discipline: medical, nursing and allied health professions. Each meta-narrative was further subdivided into 4 sub-meta-narratives: educational effectiveness (positivism), educational effectiveness (interpretivism), critical perspective and complex systems/relationships. Eligible studies were first considered within their meta-narrative before comparing and contrasting findings between meta-narratives.

**Results:** The electronic search yielded 110 papers with a further 44 papers identified by other search methods. Whereas earlier studies have focused on the effect of international placements on the learner, more recent studies have been more concerned with the relationships between various stakeholder groups. Findings were then considered in 4 dimensions: learner, educational intervention, institutional context and wider context. International placements have a positive impact on personal and professional development in the undergraduate learner across all 3 disciplines. Challenges, such as emotional shock and language barrier, are part of the learning process. In the medical literature there has been a stronger emphasis on ethical dilemmas experienced by students. Studies in nursing and allied health professions provide evidence on the development of cultural competence and transformational learning. Strategies, which encourage the engagement with the learning environment, enhance learning, although evidence is limited. There is generally a positive attitude towards hosting students, which gives the opportunity for knowledge sharing. More equity between partners is desirable.

**Discussion & Conclusion:** In this review the topic has been considered from multiple perspectives with each meta-narrative providing a lens through which to view international placements. This educational intervention makes an important contribution to the preparation of health professions students for practice in a globalised world. Learning takes place in a complex environment, which requires careful consideration for the educational design. More research is needed on how to enhance the educational process at micro-level and macro-level.

#### References:

1. Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., Kyriakidou, O. & Peacock, R. (2005) Storylines of research in diffusion of innovation: a meta-narrative approach to systematic review. *Social Science & Medicine*, 61 (2): 417-430.



## #3F Research Papers: Health Care Implementation

### 3F1 (119)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1035

**Location of Presentation:** L6, Level 1

### Depth of Field© - enhancing nursing students' preparedness to care for older adults

#### AUTHOR(S):

- Michelle Kelly, Curtin University, Perth, Australia (Presenter)
- Gabrielle Brand, Monash University, Melbourne, Australia
- Susan Slatyer, Curtin University and Sir Charles Gairdner Hospital, Perth, Australia
- Pam Nichols, Curtin University, Perth, Australia
- Rebecca Osseiran-Moisson, Curtin University, Perth, Australia
- Richard Parsons, Curtin University, Perth, Australia
- Chris Toye, Curtin University and Sir Charles Gairdner Hospital, Perth, Australia

#### ABSTRACT

**Introduction:** In health professions programs, early clinical placements are often in aged care settings, however these residents often have complex care needs and some students may feel underprepared to work with older people. Unexplored assumptions or stereotypes about older people can constrain person-centred approaches to care. The Depth of Field: Exploring Ageing © (DOF) resource (Brand, Miller, et al., 2016) was trialled and evaluated with novice nursing students as preparation for their first placement, in aged care settings.

**Methods:** A mixed methods, cluster randomised control trial. First semester undergraduate nursing students were randomised to receive the intervention (DOF) in addition to usual clinical preparation or usual clinical preparation alone. The 45 minute workshop used photo-elicitation techniques, older adult narratives and collaborative small group work designed to prompt reflection to surface students' unconscious bias or perceptions towards older adults. The study comprised three phases: pre/post intervention survey (T1/T2); post clinical survey (T3); and post clinical focus groups. The survey included: the Geriatrics Attitude Scale (GAS) (Reuben et al., 1998); demographics and questions about experience. Semi-structured questions were used for the focus groups.

**Results:** There were nine classes in the control (n=161 students) and eight classes in the intervention cluster (n= 141 students) with a response rate of 74.83% (226/302). The majority of students were female and in their early twenties (range 17 – 50 years) and groups were equivalent at baseline. For the intervention group, statistically significant improvements ( $p < 0.05$ ) were demonstrated at T2 in nine of the 13 GAS survey items, with small to moderate effect size (Cohen's  $d$ : 0.35 - 0.56). For post clinical surveys (T3) approximately 1.5 months following the intervention, group sizes were smaller but equivalent: intervention cluster 28 (28.28%), control cluster 26 (24.07%). Post clinical (T3) mean GAS scores remained the same or changed slightly ( $\pm 0.44$  to  $0.47$ ). Themes from qualitative data included: preconceptions; translating context to practice; stigma; and applicability to more specific aspects of ageing.

**Discussion:** Significant, positive changes between T1 and T2 in the GAS survey questions indicated the intervention had impact in changing students' perceptions towards older adults. Focus group participants gave several examples of having translated the intervention into their practice. In particular, they identified the benefits of knowing the life history of residents as a means of developing a therapeutic relationship. Students' willingness to engage with residents, and, in a number of cases, to overcome potential barriers to communication arising from memory and language deficits, demonstrates an awareness of these aspects of practice as crucial in working effectively with older adults. Some nursing students were able to draw on their clinical experience and critically reflect on and reconstruct previous stereotypes and attitudes towards older people and aged care. Supporting students to have a more positive opinion about older people is critical considering the greater health care challenges and future care requirements globally for a rapidly ageing population. Reconstructing stereotypes about older people is critical for all health students and equally beneficial for clinicians.

**Conclusion:** The DoF program is an effective intervention as preparation for nursing students in caring for older adults. Surfacing and reconstructing stereotypes about ageing was achieved and beneficial for students in their subsequent clinical practice. The DOF intervention is ideally suited to other health curricula either within discipline or as an interprofessional learning experience.

#### References:

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## #3F Research Papers: Health Care Implementation

### 3F2 (166)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1035-1055

**Location of Presentation:** L6, Level 1

### A new instrument to measure attitudes regarding high value, cost-conscious care of healthcare stakeholders: development of the MHAQ

#### AUTHOR(S):

- **Serge Mordang, Maastricht University, Maastricht, the Netherlands (Presenter)**
- Karen Könings, Maastricht University, Maastricht, the Netherlands
- Andrea Leep Hunderfund, Mayo Clinic, Rochester, USA
- Aggie Paulus, Maastricht University, Maastricht, the Netherlands
- Frank Smeenk, Maastricht University, Maastricht, the Netherlands
- Laurents Stassen, Maastricht University, Maastricht, the Netherlands

#### ABSTRACT

**Introduction:** High value, cost-conscious care (HVCCC) is regarded crucial to counter the trend of progressively increasing healthcare costs and needs to be advocated in residents' training environment. As attitudes are important indicators for predicting behaviour, knowing important stakeholders' attitudes toward HVCCC, enables predicting how they act upon HVCCC. There is not yet a reliable instrument available for measuring attitudes towards HVCCC in residents' training environment. This study aims to develop an instrument that maps residents' training environment regarding high value, cost-conscious care, by reliably measuring residents', staff physicians', administrators', and patients' attitudes toward different facets of HVCCC.

**Methods:** The Maastricht HVCCC-Attitude Questionnaire (MHAQ) was developed through a four-phase process. First, we used original data from a survey conducted by Leep Hunderfund, et al (2017), which consisted of 21 items preliminary focused on cost consciousness. We conducted factor analyses to define underlying factors and examined internal consistency of constructs using Cronbach's alpha. Second, we added nine new items, preliminary focused on high-value care to conceptually balance items on value and costs in the MHAQ and to strengthen subscales. Moreover, we adapted items for use by residents, staff physicians, administrators, and patients. Third, we tested the questionnaire among four samples of these stakeholders, used factor analysis to identify subscales and examined internal consistencies, and developed the final version of the MHAQ, consisting of 25 items. Fourth, we used generalizability analyses to assess the number of respondents per specialty on a national level needed to reliably measure a specialty attitude score.

**Results:** Initial factor analysis identified three subscales with Cronbach's alphas between 0.64 and 0.66. After the addition of nine new items, 301 residents, 297 staff physicians, 53 administrators and 792 patients completed the new questionnaire between June 2017 and July 2018. The aforementioned analyses resulted in 25 items distributed among three partly different subscales, each covering an important aspect of HVCCC in clinical environments. Subscales were defined as providing high-value care (eight items), integration of healthcare costs (ten items), and drawbacks of HVCCC (seven items). We optimized the composition of subscales and thereby Cronbach's alphas for each stakeholder group, considering all items in all subscales had to fit every stakeholder. Cronbach's alphas were between 0.61 and 0.82 for all stakeholders on all subscales. Generalizability analyses indicated as from 14 respondents are sufficient to reliably assess a national specialty attitude.

**Discussion and Conclusion:** In this study, we developed the MHAQ, an instrument that measures HVCCC-attitudes of important stakeholders in residents' training environment. Found subscales align well with three key aspects of HVCCC as explained by Owens and et al (2011): value assessment, cost-effectiveness, and consequences of using these assessments. This supports the content validity of the MHAQ. These aspects need to be addressed by medical education to effectively implement HVCCC. The MHAQ can be used to identify frontrunners, who can help to prioritize HVCCC, to pinpoint aspects of HVCCC that need to be improved or changed in order to give HVCCC a higher priority in residency training, and to benchmark and compare specialties, regions, and potentially hospitals. The MHAQ can serve as a starting point and as an evaluation tool for educating future physicians to provide HVCCC.

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## #3F Research Papers: Health Care Implementation

### 3F3 (207)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1055-1115

**Location of Presentation:** L6, Level 1

### How residents deal with HV3C-dilemmas: an ethnographic study

#### AUTHOR(S):

- **Lorette Stammen, Maastricht University, Maastricht, the Netherlands (Presenter)**
- Linda Janssen, Maastricht University, Maastricht, The Netherlands
- Erik Driessen, Maastricht University, Maastricht, The Netherlands
- Fedde Scheele, Athena Research Institute, VU University Amsterdam, The Netherlands
- Laurents Stassen, Maastricht University Medical Center, Maastricht, The Netherlands
- Renee Stalmeijer, Maastricht University, Maastricht, The Netherlands

#### ABSTRACT

**Introduction:** Increasing healthcare costs have a major impact on the sustainability of healthcare systems. Since physicians' behavior determines up to 80% of the total healthcare expenditures (1), training residents to deliver high-value, cost-conscious care (HV3C) is an important target for cost-containment. Additionally, physicians can use their medical expertise to eliminate care that does not contribute to the quality of care. Previous research demonstrated that residents acknowledge the importance of HV3C-delivery (2), yet experience difficulties identifying and seizing learning opportunities. Therefore, an ethnographic study was designed to explore how and if high-value, cost-conscious care is practiced throughout post-graduate medical training. The research question driving this study was formulated as: How do residents in the post-graduate learning environment deal with HV3C-dilemmas in clinical practice?

**Methods:** This ethnographic study builds on 175 hours of non-participant observations during which 21 gynecology residents were shadowed. Additionally, informal interviews, 5 semi-structured interviews and document analysis were performed. Observations focused on the occurrence, content and context of HV3C-dilemmas and how residents dealt with these. High-value, cost-conscious care-dilemmas were defined as events in which standard practice did not seem to fit the case at hand, for example due to patient characteristics (i.e. allergies or strong personal preferences) or the absence of a protocol or empirical evidence. Data collection and analysis occurred iteratively. Data analysis was performed by a multidisciplinary research team and followed principles of open coding, thematic analysis, in-depth questions and team-discussions.

**Results:** Observations demonstrated that care delivery often did not lead to dilemmas since standard practice (based on protocols and empirical evidence) provided ample directions towards what was considered high-value, cost-conscious care among health care teams of individual senior physicians. HV3C dilemmas arose in cases in which standard practice was not a match and residents dealt with these either by trying to solve them independently or by consulting others. Independent approaches included; copy-paste behavior, work-around strategies and searching for additional information. Consulting others as an attempt to solve the HV3C-dilemma at hand was aimed at para-medical staff including nurses, peers, or senior physicians. How residents applied these approaches solutions was influenced by the urgency to deal with the dilemma, the preferences of individual supervisors, and the department in general. The approach used by residents was the result of a strong socialization process.

**Discussion & conclusions:** Optimizing residency training in HV3C-delivery benefits from learning from HV3C-dilemma's in clinical practice. The prominent role of socialization is important in order to develop effective educational interventions aimed at workplace-based learning in residency training. Insight in the different approaches used by residents can help both supervisors and residents to verbalize explicitly how they determine HV3C and challenge residents to critically assess HV3C-dilemmas they encountered in daily practice. Awareness that residents used independent approaches that do not include supervisors in HV3C-dilemma's might be important to foster a more active role of both supervisors and residents in discussing HV3C-dilemmas.

#### References:

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- (2) **The Struggle is Real - How Residents Learn to Provide High-Value, Cost-Conscious Care (2018).** Lorette A. Stammen, Irene A. Slootweg, Renée E. Stalmeijer, Linda M.E. Janssen, Laurents P.M.S. Stassen, Fedde Scheele, Erik W. Driessen. Submitted to teaching and learning.

## #3F Research Papers: Health Care Implementation

### 3F4 (244)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1135

**Location of Presentation:** L6, Level 1

### A Randomised Controlled Trial of SAFMEDS to Promote Fluency in Interpretation of Electrocardiograms

#### AUTHOR(S):

- Louise Rabbitt, School of Medicine, National University of Ireland, Galway, Ireland (Presenter)
- Sinéad Lydon, School of Medicine, National University of Ireland, Galway, Ireland
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- Mirosława Gorecka, St James's Hospital, Dublin, Ireland
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#### ABSTRACT

**Introduction:** Deficiencies in Electrocardiogram (ECG) interpretation are apparent at undergraduate and postgraduate level. "Say All Fast Minute Everyday Shuffled" (SAFMEDS) is a flashcard-type behavioural intervention involving one-minute learning trials that has been widely used in higher education and other educational domains to produce fluency in target behaviours. Behaviours trained to fluency have been shown to maintain better over time, to transfer to other contexts and to endure despite distraction. This study examined whether SAFMEDS could produce behavioural fluency (i.e., accurate and rapid responding) in ECG interpretation among final year medical students, and whether this approach conferred a benefit beyond usual teaching.

**Methods:** A total of 32 final-year medical students were randomly assigned to either a "usual teaching" control group (n=16) or the SAFMEDS group (n=17), with the recognition of 15 specific cardiac conditions (e.g. atrial fibrillation, complete heart block) targeted for improvement. Both groups received a brief teaching session on the targeted conditions and all usual medical school teaching. However, the intervention group also got access to the SAFMEDS intervention and their performance was monitored over 8 weeks as they worked towards achieving the fluency criterion (17 correct ECG diagnoses per minute) by engaging in one-minute SAFMEDS trials. ECG interpretation accuracy was assessed using tests at baseline and post-intervention for both groups, and at two months post-intervention for the intervention group in order to assess retention of learning.

**Results:** In total, 7 of 15 intervention group participants achieved the fluency criterion, and completed an average of 45.7 one-minute trials (SD=19.61, range 26-76). There was no significant difference between the percentage improvement from baseline to post-test of participants who achieved fluency (M=327.14; SD=159.75) and the participants who did not achieve fluency (M=673.24, SD=576.69),  $p=.21$ . Although baseline performance was comparable among the two experimental groups, the intervention group significantly outperformed (M=61.5%; SD=12.1%) the control group (M=31.6%; SD=12.5%) at post-testing,  $p<.001$ , and a large effect size of the SAFMEDS intervention was discerned (partial  $\eta^2=.41$ ). Improvements in ECG interpretation among the intervention group were demonstrated to persist at the two-month follow-up.

**Discussion:** A large effect size of the SAFMEDS intervention was observed as compared to usual teaching only. Learning persisted at a two-month follow-up. The degree of improvement evidenced is particularly notable given the brevity of the intervention (an average of 39.73 minute-long trials). These results suggest that SAFMEDS may comprise a useful adjunct to usual teaching that allows students to independently manage and improve their own learning. Engagement with the intervention appears to be of benefit even when the learner does not achieve the fluency, or expert, criterion or not.

**Conclusion:** These findings support the efficacy of SAFMEDS for training ECG interpretation. Further research could explore SAFMEDS' application to other clinical skills and assess whether learning transfers to clinical practice.



## #3F Research Papers: Health Care Implementation

### 3F5 (246)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1135-1155

**Location of Presentation:** L6, Level 1

### Fulfilling A New Obligation: Teaching and Learning About Sustainable Healthcare in the UK Medical School Curriculum

#### AUTHOR(S):

- SanYuMay Tun, Centre for Environmental Policy, Imperial College London, London, UK  
(Presenter)

#### ABSTRACT

**Introduction:** Doctors qualifying or registering in the UK will be required to understand and apply the principles of sustainable healthcare to medical practice. The General Medical Council's document 'Outcomes for graduates 2018' places a new obligation on medical schools to teach sustainable healthcare in the curriculum(1). Sustainable healthcare focuses on the improvement of health and better delivery of healthcare, rather than late intervention in disease, with resulting co-benefits to patients and to the environment on which human health depends. As sustainability is an emerging concept in the medical profession, this Master's thesis project aimed to make evidence-based recommendations on best practice for implementing this new learning.

**Methods:** A qualitative exploratory approach used grounded theory to generate themes through the triangulation and analysis of multiple sources of data. Informal interviews were held with key stakeholder organisations in the sustainable practice of medicine, such as the Sustainable Development Unit (NHS/PHE), the Centre for Sustainable Healthcare, and with an NHS sustainability manager. Informed by a literature review and document analysis, questions were developed and used in semi-structured interviews with medical educators of varying backgrounds, who have been teaching about sustainable healthcare through their own interest. These educators were from eight medical schools around the UK which have diverse approaches to curriculum structure, teaching methods and assessment.

**Results:** There was clear consensus from participants and the literature on the key barriers and enablers to implementing this new learning. Educators lack the knowledge and capacity to teach this new subject, which is also difficult to examine. However, many sources of support and learning resources are available. Of multiple suitable pedagogies, the most powerful impact on students' learning is through being taught by clinicians engaged in sustainability and in contexts directly relevant to patient care. Institutional prioritisation of sustainability is important. While there is continual pressure on space in the curriculum, there is a growing demand from university students for sustainability to be addressed in their education and future careers, and a new approach to healthcare delivery is required for the long-term sustainability of the health service.

**Discussion:** In 'Outcomes' the GMC has introduced to undergraduate medical education the concepts of over-diagnosis and over-treatment, cost effectiveness, and treatment as a burden on patients. Sustainability is already one of the seven domains used by the Royal College of Physicians to define quality(2). Educators less familiar with sustainability may be open to learning at the same time as they are teaching it to students, and even to learning from students who may already be better informed. As awareness develops of present unsustainability, the emotional resilience of both students and educators may need to be supported. An understanding of the wider drivers of disease should be embedded into assessment.

**Conclusions:** Educating new doctors to promote and practice sustainable healthcare may enhance satisfaction in clinical practice and has wider benefits for the healthcare system and the environment as well as for patients. Recommendations for implementing sustainable healthcare education include treating sustainability as a theme running through all subjects and year groups rather than as a topic, involving clinicians in the teaching as much as possible, sharing common learning resources among medical schools and embedding sustainability into assessment. There is a limited number of experts to access in this emerging field. Further research is needed to evaluate impact on students' learning.

#### References:

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## #3G Point of View 1

### 3G1 (2624)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1025

**Location of Presentation:** Room 1.85-86, Level 1

## Emotions matter in selection for medical school: Let's value more than students' IQ

### AUTHOR(S):

- Kirsty Forrest, Bond University, Australia (Presenter)
- Amy Bannatyne, Bond University, Australia
- Jo Bishop, Bond University, Australia

### ABSTRACT

In Australia, entry to a medical program is highly competitive. Presently, there is no gold standard for selecting medical students and the task of selecting candidates that will be 'successful doctors' is complex and multifaceted. Most medical schools use a combination of tools and scores to select applicants. Exceptionally high academic thresholds are, however, a prominent feature in most selection criteria and frequently applied before further assessment occurs. Predictive links between previous academic achievement and academic progression in medical school have been established. However, data from systematic reviews has revealed that while academic performance accounts for 23% of the variance in progress measures at medical school, it only accounts for 6% of the variance in progress beyond medical school. Furthermore, recent findings revealed that non-academic/non-cognitive qualities appear to be better at predicting students' performance later in their medical studies.

Scholars are increasingly claiming that medicine overemphasises general intelligence and underemphasises emotional intelligence (EI). In addition to being related to clinical performance and academic achievement in medical education, EI has been associated with improved empathy in medical consultations, enhanced doctor-patient relationships, and greater patient satisfaction. To date, consideration of EI when selecting medical students has been largely absent from admission criteria. In response, Bond University made the decision to include explicit measures of non-cognitive abilities, namely emotional intelligence as a standalone step of the selection process for the 2018 cohort.

Anecdotally, feedback from our stakeholders has been mixed. Some have expressed disagreement and scepticism with the decision to value a "different" intelligence, possibly highlighting stereotypes and prejudicial beliefs about EI. Other stakeholders have embraced and supported the decision. For example, a student from our 2018 cohort stated: "It's refreshing to know the university not only values our high grades but our ability to connect with people too." Our concern is that often selection does not reflect the values of an institution, and that students feel they are only valued for their IQ and not their EI. We would like to widen the discussion and talk about something other than cognitive testing for selection - something that is consistent with program values.

## #3G Point of View 1

### 3G2 (2284)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1025-1035

**Location of Presentation:** Room 1.85-86, Level 1

## Sharing Accountability for a Cultural Shift in Lifelong Learning in Healthcare

### AUTHOR(S):

- **Sophie Peloquin, AXDEV Group, Canada (Presenter)**
- Suzanne Murray, AXDEV Group, Canada
- Patrice Lazure, AXDEV Group, Canada
- Morgan Peniuta, AXDEV Group, Canada
- Pam McFadden, AXDEV Global, USA

### ABSTRACT

There has been a lot of discussion around the transformations that are necessary for our health systems to continue to meet the evolving healthcare needs of an increasingly co-morbid and aging population. Over 18 years ago, the Institute of Medicine Report (2001) highlighted the importance of changes in the environment of care, to allow for an evolution in our healthcare systems. Indeed, professional behavior can only change when there are systematic and comprehensive changes to the culture in which providers operate (Depato et al., 2018).

Who is responsible for ensuring these changes occur? In the mid-nineties, the WHO suggested that medical schools lead this effort. The WHO defined social accountability as the obligation of medical schools to reorient their education, research and service priorities to respond to current and future health needs and challenges in society (Boelen and Heck, 1995). But beyond medical schools, is there also an individual, organizational or systemic responsibility?

Education and continuing professional development activities have traditionally been developed using a top-down approach, with curricula selection based on the opinions of subject matter experts and academic researchers (Davies, 1999). Life-long learning (from undergraduate to graduate education and continuing professional development opportunities) should be evidence-based and should reflect the needs of the learners (healthcare professionals and teams) as well as the population needs. Although progress has been made, there is an urgent need for a shift in organizational (sub)cultures, in order to support this evolution. This presentation will challenge our thinking about shared accountability between medical schools, specialty societies, government, health systems, and the private sector. We propose that stakeholders must work together effectively to bring about the cultural shift that is needed to improve the quality of the educational offering and positively impact health outcomes.

## #3G Point of View 1

### 3G3 (2267)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1035-1045

**Location of Presentation:** Room 1.85-86, Level 1

### Gender perspective in medical education: Where?

#### AUTHOR(S):

- Laura Lalucat García-Valdés, IFMSA - International Federation of Medical Students' Association (Presenter)

#### ABSTRACT

When a female student is asked to get the doctor a coffee, when there are no women at all at the Operation Room and sexist jokes are the first thing to be said at 8am in the morning before going on rounds, those are invisible - and also visible - ways to teach all genders that are not men, that we are one step behind and furthermore, that is not an isolated case but that we'll be facing similar situations throughout our studies and professional careers in a systematic way.

This systematic oppression - understanding oppression as the fact of not being able to develop one's full potential - is present also when students interact with each other and the team dynamics are also affected by this gender axis that with no doubt, puts some members of the group at the very top and some others at the lowest part: Who mostly volunteers to try out a medical procedure during the rotations? Who is answering the questions when the professor asks? Mainly those situated at the top of this axis while others, even if they represent a higher percentage in the room, may think there are students that will perform better than them because of their position in the group and maybe they tried to intervene before but their replies were cut by others only because they spoke with a higher tone of voice.

The first step to transversalize this - very vertical - axis is to be aware it exists and putting the efforts on sharing good practices, creating manuals and guidelines that guarantee we can monitor our current efforts to build safer and fair spaces where coeducation can effectively take place by specific objectives and indicators that can be lead towards debunking gender inequities in our education systems.

## #3G Point of View 1

### 3G4 (3067)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1055

**Location of Presentation:** Room 1.85-86, Level 1

## What do you mean you've never failed before? The dangers of reframing failure

### AUTHOR(S):

- Rachel Lewin, University of California, Los Angeles, USA (Presenter)

### ABSTRACT

Failure is scary. So scary that we've come up with a lot of ways to "reframe" failure, casting it as the "first attempt in learning", "not a failure but an opportunity to learn", etc. And in one way, these reframes are true -- our failures are learning opportunities. But, critically, these reframes deny us the emotional experience of failure, and the opportunity to hear the important feedback that failure provides.

In medical education, our learners are often highly intelligent, very high achievers, and accustomed to success. Their first failure experiences may come late in life and be challenging for the learner to reconcile with their self-image. Immediately reframing failure into a positive experience robs the learner of the full breadth of growth opportunities that failure provides -- it is not only about learning from the experience, but also about feeling what it is like not to succeed, and identifying where you went wrong in preparation.

This talk will discuss why it is dangerous to seek ways to reframe failure that honor only the positive potential of the experience, as well as discuss ways that we can all implement frank and honest conversation about failure into our daily lives as learners and instructors in medical education.



## #3G Point of View 1

### 3G5 (1159)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1055-1105

**Location of Presentation:** Room 1.85-86, Level 1

### The gut feelings perspective: Clinical intuition beyond guidelines. A challenging teaching topic

#### AUTHOR(S):

- **Graziela Moreto, SOBRAMFA - Medical Education & Humanism, Brasil (Presenter)**
- Pablo González Blasco, SOBRAMFA - Medical Education & Humanism, Brasil
- Ismael Ramirez Villaseñor, Escuela de Medicina y Salud, Tecnológico de Monterrey, Mexico
- Jorge Soler Gonzalez, Institut Català de la Salut, Spain

#### ABSTRACT

Clinical intuition, terminology long used in period before evidence-based medicine (EBM), is returning to the current medical scenario. Research shows that physicians, especially general practitioner (GP), sometimes experience the feeling that something is wrong with a patient during a consultation, although they do not know exactly what. This so-called “sense of alarm”, which is a feeling of sudden heightened awareness, is alerting physicians and causing them to worry about the patient’s health status. On the other hand, physicians can feel a sense of reassurance, hereto meaning confidence about the management plan and/or about the outcome, even though they are not certain about the diagnosis. This sense of alarm and reassurance is called “gut feelings” or qualified intuition.

Although evidence and skilled intuition may sometimes appear as irreconcilable opposites, the combination fits very well with the EBM concept that is based on the integration of scientific knowledge, patients’ preferences as well as physicians’ expertise and skills.

The “gut feelings” concept exists and it substantially contributes to the GPs’ diagnostic reasoning process, however the doctor often has difficulties explaining or sharing it because he considers this non-scientific. Another challenge that we face: Is it possible to teach about gut feelings? Or perhaps more than teaching the art of intuition, it would be better to make the learners aware of this issue which each one must build along their practice. It would be like saying: when you accumulate experience and intuition, value them. Do not delete them because of a new guideline.

In our point of view, medical schools should take into consideration that gut feelings perspective open a promising space for academic research. We recognize their existence and believe this topic is important to incorporate into the curricular content.



## #3G Point of View 1

### 3G6 (177)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1105-1115

**Location of Presentation:** Room 1.85-86, Level 1

### Teaching written communication to medical students

#### AUTHOR(S):

- Michael Unwin, University of Manchester, UK (Presenter)

#### ABSTRACT

Communication is integral to the 3rd domain of the UK General Medical Councils “duties of a doctor”. Telephone consultations now common in both secondary(1), and primary care, (2) and technological advances, and staff shortages, will make email consultations a thing of the future(3). It is important for tomorrow’s doctors to be skilled in writing for a lay audience. Most UK medical schools devote considerable time to verbal communication skills (over 30hrs in years 3-5 at my institution) but very little to written communication. A straw poll at a recent academic conference showed the situation is similar throughout the UK.

I receive many letters, from health professionals, that have been shared with patients, containing a level of jargon and acronyms that make them impossible for a lay audience to understand. All medical professionals need to be well-versed in writing for a lay audience and, as we must start somewhere, I suggest we begin with medical students.

As a doctor who has over 20 years of experience in writing medical features for the lay press I have developed a training programme for medical students and tutors, which I deliver outside the curriculum at Manchester University medical school. I believe that not having written communication skill embedded into the curriculum of all medical schools is a huge oversight and a lost opportunity to improve communication between the medical profession and their patients. I will show examples of both poor and excellent communication to illustrate my point, and give tips on how to teach written communication skills.

1. Roberts NJ, Partridge MR; Telephone consultations in secondary care. *Respir Med*. 2007 Aug;101(8):1665-9. Epub 2007 Apr 19.
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## #3G Point of View 1

### 3G7 (1437)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1125

**Location of Presentation:** Room 1.85-86, Level 1

### Stress Related Absence in Medical Trainees

#### AUTHOR(S):

- **Mumtaz Patel, Health Education England North West (HEENW), UK (Presenter)**
- Leila Dilamy, NHS/Health Education England North West, UK

#### ABSTRACT

As a medical education fellow for Health Education North West, I studied stress related absence and resilience amongst junior doctors, simultaneously undertaking my specialty training while also addressing significant personal challenges outside of the workplace. Reflecting on this experience prompted wider questions regarding the impact of work and life stressors, not only on doctors' well-being, but on personal career development. Academic endeavours and trainee progression are bound to suffer when an individual is focusing their energies on a taxing working day or emotional home circumstances.

Literature suggests that doctors with compulsive behavioural traits, high achievers and often perfectionists, have continual feelings of guilt surrounding 'not doing enough' and therefore can set themselves difficult to achieve targets in both life and the workplace. This leads to a pattern of overworking, and personal recovery is not permitted until work is complete (1, 2). These traits can be an asset, allowing individuals to succeed and become 'high-flyers', though they can be equally self-destructive.

Building resilience is a way to combat stress and burnout amongst doctors, supporting their well-being and encouraging ongoing career progression. The NHS has some innovative and targeted approaches to employee well-being, but there is lack of consistency (3).

Training of relevant individuals such as line managers, supervisors, and educational and departmental leads who can promote resilience and well-being is a good starting point. From here, at risk individuals can be identified and earlier intervention offered. Easily accessible services such as workshops and counselling, free from stigma, should be established in each trust. Appropriate follow up procedure should also exist to ensure these individuals do not get lost in the system.

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## #3G Point of View 1

### 3G8 (3368)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1125-1135

**Location of Presentation:** Room 1.85-86, Level 1

### Surgical Education is an Import-Export Business

#### AUTHOR(S):

- Douglas Wooster, University of Toronto, Canada (Presenter)
- Elizabeth Wooster, OISE/University of Toronto, Canada

#### ABSTRACT

Surgical education is often presented as a unique educational model separate from those used in other disciplines. As such, there are often specific dialogues and defined rhetoric around the special nature of surgical education. Clearly there are skill sets, cognitive domains and team interactions that define the context of surgical specialties' training and practice. Some of these are distinct from other specialties; there are, however, many overlapping domains. Surgical education is, in fact, an import-export business.

Trainee selection, stressors, curriculum, evaluations and training completion criteria may be considered to be special. They are, however, often developed by surgery programs and used elsewhere or brought in from general principles and practice. Teaching methods are based on general teaching and learning theory. The multidisciplinary nature of operations creates opportunities for team learning and requires an understanding of group theory that comes from psychology and a variety of allied health and other disciplines. Simulation learning borrows from engineering, electronic gaming, aviation and design theory and practice. The cognitive domains of surgery are not dissimilar to those of other disciplines. Education in clinical decision making and training in obtaining consent requires proficiency based in 'surgical' and other approaches.

The basic science of surgery is both 'home grown' and translated from other domains. The 'medical aspects' of surgery are consistent with other disciplines. Technical domains include skills that are not necessarily unique to surgery; equipment and devices are developed in concert with engineers, metallurgists, designers and surgeons. Professional and ethics considerations may carry some unique context but are consistent with other professions and practices. Research practices, guideline formulation and societal interactions are usually broad-based and applied in the surgical environment.

Surgical education is based on and continues to develop from multiple inputs from many sources. Insights from the surgical context are translated to other disciplines. Surgical education is an import-export business.

**Aim:** This point of view argues that 'surgical education' is not a discrete 'track' but rather uses a variety of educational strategies in a particular, surgical, context.

## #3G Point of View 1

### 3G9 (935)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1135-1145

**Location of Presentation:** Room 1.85-86, Level 1

### Should alternative medicine be taught in our faculties?

#### AUTHOR(S):

- **Frederic Lagarce, Faculty of Health Sciences - University of Angers, France (Presenter)**
- Cedric Annweiler, Faculty of Health Sciences, France
- Nicolas Lerolle, Faculty of Health Sciences, France

#### ABSTRACT

There is a strong demand for alternative health approaches from the public. With the popularization of health information in magazines, social networks and websites, the information on personal health management is wide, oversized, often non-validated, and may result in misunderstandings and errors. Health professionals, including general practitioners and community pharmacists, remain the population natural interlocutors and support an educational role. For this reason, teaching the possibilities and limits of alternative medicine in medical and pharmacy faculties should be considered in order to provide a reliable and true message. However, it is of note that this would also give credit to non-evidence-based approach of complementary therapies. In fact, holistic approaches such as homeopathy gained credits over years and have survived despite clear evidence of a lack of efficacy, because they were viewed as non-harmful and were taught in medical and pharmacy schools. In our faculty of Health Sciences, we propose a compromise between not teaching non-evidence-based medicine and leaving our patients without any response to their needs. The course is based on a global approach including psychology, communication and listening skills toward the patients, placebo understanding and also the message that every consultation should not necessarily end with a prescribed drug list. We also explain the difference between homeopathy, phytotherapy, aromatherapy and other complementary cares asked by the patients. This allows to teaching our students on alternative health care without giving credits to what is now called 'fake medicine'.

## #3G Point of View 1

### 3G10 (1514)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1155

**Location of Presentation:** Room 1.85-86, Level 1

### What I hope they would've taught me in Med School

#### AUTHOR(S):

- Aleksi Pajunen, Helsinki University, Finland (Presenter)

#### ABSTRACT

That evening the consulting radiologist was more like confrontationalistic radiologist. After suffering third verbal abuse over the phone something changed in me: I don't want to consult more experienced physicians anymore. I know this is the wrong conclusion, but they never taught me how to handle these situations.

That day I tried to bring up discrepancies in pharmacological records of the ward, they were constant and always same people. Our medical superintendent brushed it off and I left the conversation feeling humiliated. They did not teach me how to handle these situations. When I went home those nights, I did not feel like the professional I was supposed to be. And there are so many more days with so many more stories.

Even though there are many skills med school teaches for new physicians, beyond the understanding of anatomy, pathophysiology, diagnoses and treatments there is a whole world of difficult situations new doctors might feel unequipped to face. These skills are not taught explicitly in the med school, but should we teach them?

Recently graduated (2,5 years ago) physician and young teacher Aleksi Pajunen will share stories about situations that med school did not prepare him at all. And few pointers on what we could do to better arm our students to face these kind of problems.



## #3H Patil Teaching Innovation 1

### 3H1 (2019)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 1.61-62, Level 1

### Transforming a Curriculum with Patient Illness Stories

#### AUTHOR(S):

- Carrie Elzie, Eastern Virginia Medical School, USA (Presenter)
- Russ Clark, EVMS, USA
- Phavon Sage, EVMS, USA

#### ABSTRACT

**Background:** Incorporation of narrative medicine into practice has shown great benefit to patients and clinicians. However there exists a dualism between narrative and evidenced based medicine that, with limited curriculum time, often prevents incorporation into training medical students. However, we have found that combining patient illness stories with basic science to teach clinical cases can transform a curriculum and increase all three learning domains: cognitive, affective, and psychomotor.

**Summary of Work:** The illness stories and medical records of a living anatomical donor, Mr. Clark, were used to create interactive cases to teach anatomy. Each case allowed students to delve into the patient's perspective while learning the underlying basic science and clinical principles. Follow-up sessions provided the students with the opportunity for personal connection and a forum to ask questions with the patient. Student reflections, exam performance and knowledge retention were analyzed compared to other case modalities. The impact on delivering serious news was analyzed using the Master Interview Rating Scale comparing students who either had Mr. Clark or a pair-matched standardized patient without a story. Qualitative feedback was also collected.

**Summary of Results:** One hundred fifty students completed five cases with Mr. Clark. Thematic analysis revealed two of the top three take-aways from each case were consistently humanistic rather than scientific/clinical with a focus on the patient's feelings, reactions and lifestyle. Performance on exams was similar to content taught in other modalities. Retention rates of patients' diagnoses were 50% higher for cases that contained personal narratives. Clinical encounters with Mr. Clark showed an increase in nonverbal facilitation (putting the patient at ease and facilitated communication), as well as, empathy and acknowledging patient cues. Feedback was overwhelmingly positive with 93% of the class expressing an appreciation for the humanistic elements of this teaching modality.

**Discussion and Conclusions:** Changing the curriculum to include illness stories has shifted the medical narrative toward a more compassionate and humanized conversation without sacrificing medical knowledge.

**Take-home Messages:** The addition of illness narratives into a first year medical student curriculum has the potential to foster interpersonal development in affective, cognitive, and experiential domains, thereby positively shaping the hidden curriculum into a more humanistic and empathetic message.

## #3H Patil Teaching Innovation 1

### 3H2 (3153)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 1.61-62, Level 1

## Medical Escape Rooms: A Novel Methodology in Undergraduate Medical Education?

### AUTHOR(S):

- Paren Chohan, Royal Wolverhampton NHS Trust, UK (Presenter)
- James Holloway, Royal Wolverhampton NHS Trust, UK
- Benjamin Allen, Royal Wolverhampton NHS Trust, UK

### ABSTRACT

**Background:** Gamification refers to the 'use of game design elements in non-game context'<sup>1</sup>. In the learning environment, it has been shown to have a positive effect on motivation and subject engagement<sup>2</sup>. 'Escape Room' games have gained popularity by creating a realistic environment that rewards players for working together, solving puzzles and completing challenging tasks in order to escape a room or scenario in a fixed amount of time. Minimal literature exists however to suggest if this format may be beneficial when incorporated into medical education.

**Summary of Work:** 24 MBChB students from the University of Birmingham across year's three to five were divided into 6 groups and undertook a 'medical escape room', based around the management of chronic asthma. Each session ran for 30 minutes.

**Summary of Results:** 92% of the participants thought the scenario was an effective way to learn new information. 100% of students thought the scenario was an effective way to consolidate knowledge. 92% of students did not feel the non-educational portions distracted them from learning about asthma. Open axial analysis revealed high student enjoyment, engagement and a strong opportunity to practice team working skills. 86% preferred this method for learning over didactic lectures. Students commented that this escape room model could be used to consolidate knowledge and saw it as an adjunct to higher fidelity simulation exposure.

**Discussion and Conclusions:** This data supports the suggestion that the use of Escape Rooms is an effective way of teaching medical students. When used alongside traditional teaching methods, it provides a novel method through which to teach new topics and to consolidate existing knowledge. Further work is needed to explore if this methodology can be extended to cover other topics in medical education and if it is effective for other healthcare professionals with varying levels of experience.

**Take-home Messages:** Medical escape rooms offer a novel teaching method of engaging students in the core principles of managing a patient's disease including an opportunity to demonstrate team working skills.

## #3H Patil Teaching Innovation 1

### 3H3 (460)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 1.61-62, Level 1

### “BEEP-BEEP SIM” Pilot: Gamified On-Call Simulation Curriculum for Undergraduate Medical Education

#### AUTHOR(S):

- **Anthony Seto, University of Calgary, Canada (Presenter)**
- Jian Choo, University of Calgary, Canada
- William Kennedy, University of Calgary, Canada
- Mitchell Rohatensky, University of Calgary, Canada
- Sean Crooks, University of Calgary, Canada
- Mackenzie Margetts, University of Calgary, Canada

#### ABSTRACT

**Background:** “BEEP-BEEP SIM” prepares medical students to be paged for on-call situations. The innovation is part-game, with a goal (solve clinical puzzles), rules (work collaboratively), feedback system (answers unlock locks), and voluntary component (complete “rooms” in any order). The innovation is part-simulation, using low-tech items including locks and boxes: physically, learners move room-to-room to simulate being on-call; emotionally, students face time-pressures; conceptually, students review on-call topics. “BEEP-BEEP SIM” is grounded in the self-determination theory, which posits that learner motivation requires the needs of competence, autonomy, and relatedness met. Competence is achieved through puzzle participation, choice in the order to complete “rooms” embraces autonomy, and student collaboration promotes relatedness.

**Summary of Work:** 5 teams of 3-5 students (n=20) piloted “BEEP-BEEP SIM”. Teams completed 6 “rooms” in any order. Each room contained 4 puzzles regarding on-call clinical topics. If teams exceeded 10-minutes for a room, a facilitator assisted. Solving 4 puzzles enabled unlocking of a room’s box. Each box contained a summary card of teaching points for that room, which students reviewed. Once 6 rooms were completed, students were debriefed in the debrief room; this included a verbal quiz to promote retrieval of learned content and an instructor-facilitated summary to reiterate learning points.

**Summary of Results:** The average learner-reported confidence (n=20) in learning objectives for Hyperkalemia (2.24/5.00 to 4.02/5.00), Chest Pain (3.46/5.00 to 4.46/5.00), Hyperglycemia (2.86/5.00 to 3.98/5.00), Agitation (2.39/5.00 to 4.34/5.00), Fall (2.81/5.00 to 4.14/5.00), and Fever (2.81/5.00 to 3.96/5.00) significantly increased pre- vs post-session (all p<0.001, 1-tail repeated-measures t-test). “BEEP-BEEP SIM” was reported as “fun”, “interactive”, “engaging”, “low stakes”, and “high-yield”. On a scale of “not useful” (0) to “very useful” (2), students (n=19) rated gamification 1.89/2.00 and the 4-phase repetition design 1.92/2.00.

**Discussion and Conclusions:** “BEEP-BEEP SIM” is a curriculum that improves learner confidence, with advantages of being relatively low-cost and portable. This educational model may be adapted for training in any field, and have interdisciplinary potential, as objectives and associated puzzles are easily customizable.

**Take-home Messages:** A combination of escape game elements and low-fidelity simulation can be used to achieve learning for tailored objectives, drawing on the teaching strategies of gamification and repetition, and enhancing motivation through the self-determination theory.

## #3H Patil Teaching Innovation 1

### 3H4 (2684)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 1.61-62, Level 1

## All marking and no teaching makes a teacher a dull academic

### AUTHOR(S):

- Alexandra Webb, Medical School, Australian National University, Australia (Presenter)
- Katherine Esteves, Medical School, Australian National University, Australia
- Krisztina Valter, Medical School, Australian National University, Australia

### ABSTRACT

**Background:** Marking written assessments can be an onerous task for academics. The grading process requires a significant time commitment, within a limited deadline, that frequently exceeds the time devoted to teaching and learning. Meanwhile, students spend weeks preparing their assessment but after receiving their grade and feedback typically do not share or refer to their work again. Using student-created videos instead of written assessments offers new possibilities to enhance the assessment process for both academics and students.

**Summary of Work:** Undergraduate human anatomy students (n=126) were assigned an assessment task to create a 5-7-minute entertaining educational video on an anatomy topic of their choice in self-selected groups of five. Following submission, students were invited to rate the videos produced by their peers and participate in an online survey to evaluate their experience of creating the videos. The grading process was compared to a previous 2000-word written assignment.

**Summary of Results:** Seventy-five (60%) and 61 (48%) students participated in the peer-rating of videos and evaluation survey, respectively. Students preferred peer-videos that delivered pertinent content integrated within a story or drama. The most highly ranked videos incorporated an entertaining comic element. Most students enjoyed creating the video (93%) and reported that the process of creating a video improved their understanding of the topic (90%). The opportunity to research the topic in depth and consolidate their knowledge were the main factors that aided their learning. In contrast, the time-consuming process of the task and the need to learn how to use a new technology detracted from their learning. For teachers, the grading process was reduced from 50 to 5 hours, the feedback to students was increased and it was engaging.

**Discussion and Conclusions:** The process of creating videos provided students with a stimulating opportunity to work as a team to construct their own representations of anatomical concepts to aid their learning which could be utilised as a resource to aid the learning of their peers. The marking and feedback process was more efficient.

**Take-home Messages:** Creatively designed assessment tasks can not only benefit student learning but be fun for both students and teachers.

## #3H Patil Teaching Innovation 1

3H5 (273)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 1.61-62, Level 1

### Using medical students for innovation of education: a win-win!

#### AUTHOR(S):

- Richard Supheert, Radboud University Medical Center Nijmegen, The Netherlands (Presenter)
- Jeroen van Dillen, Amalia Childrens Hospital, Radboudumc, The Netherlands
- Lenno Dukel, Radboudumc, The Netherlands

#### ABSTRACT

**Background:** When graduated the young doctors are often asked to supervise and educate their interns in medical practice while being unexperienced. Most of them do not have any educational background within teaching which makes the quality of educating quite variable. In the Netherlands the Medicine study has a final 3 year period of clinically internships but normally no official educational training.

**Summary of Work:** As a pilot internship the educational committee of the department of obstetrics and gynecology of the RadboudUMC (the Netherlands) provided a senior medical student to enroll in a pilot medical education internship. The learning goals of this three-month educational internship were to teach a senior medical student how to participate and innovate within his/her own medical curriculum.

**Summary of Results:** In terms of participation, the student was involved in preparation and teaching within the existing curriculum. In terms of development and innovation the student was asked to update an existing module in physiological obstetrics. In collaboration with a large medical publisher the student developed two obstetric e-learning modules for national use by medical Universities and Dutch midwifery schools which will be implemented from August 2019. The same learning goals which came with self-study may now be achieved with the interactive e-learning modules and can prove to be a great innovative way to teach.

**Discussion and Conclusions:** We learned from all this that a student is well able to help improve his/her own medical educational program and bring new innovating ideas into mind. When being actively supervised a senior medical student can learn how to teach younger students and/or interns, but can also learn how to develop new educational material.

**Take-home Messages:** We propose to integrate an educational internship into the clinical internship program of senior medical students. On the one hand this will prepare them better for their future careers with better knowledge on how to teach younger students. On the other hand this will then automatically use the younger medical generation to keep on innovating our university educational program: a win-win!



#3H Patil Teaching Innovation 1

3H6 WITHDRAWN



## #31 Short Communications - Self Assessment, Peer Assessment and Portfolios

311 (3380)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room L2, Level 1

### Medical students' capacity for self-assessment in first and fifth year at the Lisbon Medical School

#### AUTHOR(S):

- Madalena Patricio, Lisbon School of Medicine, Universidade de Lisboa, Portugal (Presenter)
- Ana Isabel Lopes, Lisbon School of Medicine, Universidade de Lisboa, Portugal
- António Barbosa, Lisbon School of Medicine, Universidade de Lisboa, Portugal

#### ABSTRACT

**Background:** The results of a first year self-assessment pilot study (334 students) done in the context of Module III-I 'The Doctor, the Person and the Patient', were presented at the AMEE 2018 Conference confirming students' capacity for self-assessment in portfolio and final written exam.

**Summary of Work:** The aim of the current study was to replicate the above study at a later phase (5<sup>th</sup> year) in the context of Paediatrics with 164 students self-assessing their practical and written exams. For this purpose, a question was introduced at the end of both exams: 'What grade do you expect to get on the exam you just completed'. Students were also asked to rate the level of their knowledge (high/medium/low) concerning Paediatrics.

**Summary of Results:** Results reconfirmed that students are capable of self-assessment. The average difference between 'expected-grade' vs 'real-grade' is only -0.14 for the practical and -0.19 for the written exam. When considering the three groups (high/medium/low knowledge) students assessing their knowledge as 'high' were more optimistic (average difference equal to .02 for practical and .47 for written exam). However, when looking at individual student performances we found, 29 students in the written and 24 in the practical exam, with discrepancies between 'expected-grade vs real-grade' of two or more grade points, reconfirming first year results from 23 students in portfolio and 64 in the exam.

**Discussion and Conclusions:** If students are capable of self-assessment in first and fifth year when looking at grades in the written exam, it appears that the tendency in first year is for students to over-assess their performance while in fifth year the tendency is for under-assessment. Global results confirmed that not only are students capable of self-assessment at an early and later stage but also that there is evidence of this capacity in the cognitive, practical and reflexive domains.

**Take-home Messages:** Despite both studies showing that students are globally capable of self-assessment it is crucial to identify their individual performance because for a high number (140) it may not be enough to give them a realistic insight of their weaknesses, which is fundamental when they will be acting as doctors.

## #31 Short Communications - Self Assessment, Peer Assessment and Portfolios

312 (1704)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room L2, Level 1

### The efficacy of peer assessment in Objective Structured Clinical Examinations for formative feedback

#### AUTHOR(S):

- **Kyong-Jee Kim, Dongguk University School of Medicine, South Korea (Presenter)**
- Giwoon Kim, Sooncheonhyang University School of Medicine, South Korea
- Bora Kang, Seoul National University Bundang Hospital, South Korea

#### ABSTRACT

**Background:** We explored the efficacy of a new format in Objective Structured Clinical Examinations (OSCEs), where students were exposed to each station twice both as an examinee and a peer assessor by investigating its impact on their performance.

**Summary of Work:** 42 four-year medical students participated in OSCEs on three stations (syncope, hemoptysis, and back pain). Each station was assessed both by a medical faculty and a student simultaneously. Students in group A (n=21) were tested on the station and then participated in that station as a peer assessor, and those in group B (n=21) participated in the station as a peer assessor first and then as an examinee later. Student performance scores were compared across the groups. Students were divided into two groups by their overall performance in OSCEs and their scores given to peers as peer assessors were compared with those assessed by faculty.

**Summary of Results:** There were no differences in their overall OSCE scores between the groups of different sequence of roles in OSCE stations, where p values were .489 or greater in each station. Group A performed better in the syncope station ( $t = 3.02$ ,  $p < .05$ ) but did worse in the hemoptysis station than their peers ( $t = .66$ ,  $p < .001$ ). Student performance in the back pain station did not differ between groups ( $t = .71$ ,  $p = .48$ ). There were significant associations between peer assessment and faculty assessment scores in one station both in higher-performing and lower-performing groups ( $p < .05$ ) and no associations were observed in the other two stations.

**Discussion and Conclusions:** There were weak associations between the assessment scores conducted by faculty and students and higher-performing students in OSCEs were unlikely to better assess student performance in OSCEs than their peers. Student exposure to the OSCE station as a peer assessor may have a positive impact on his/her performance in some stations, but not in all stations.

**Take-home Messages:** Peer assessment is a feasible approach to give students more exposure to OSCE stations without consuming more resources, but its effectiveness likely differ across stations. Future research warranted on more effective use of peer assessment to enhance student performance in OSCEs.

## #31 Short Communications - Self Assessment, Peer Assessment and Portfolios

313 (1809)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room L2, Level 1

### Development of Medical Students' Self-Assessed Competency Levels as Part of a Longitudinal, Portfolio-Based Mentoring Programme

#### AUTHOR(S):

- Maria Lammerding-Köppel, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany (Presenter)
- Maria Farquharson, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany
- Tanja Mirjam Riess, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany
- Jan Griewatz, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany

#### ABSTRACT

**Background:** Competency-based medical education requires instruments which measure competency development as an outcome. As part of a longitudinal, portfolio-based mentoring programme a questionnaire to document and assess students' competency development (FKM, Freiburg Questionnaire to Assess Competencies in Medicine) was implemented at the University of Tuebingen. Research question: Do students' self-assessed competency levels significantly change between two times of measurement?

**Summary of Work:** The FKM is a valid and reliable self-assessment tool comprising 45 items in nine competency groups. Students complete the questionnaire in semesters 5 and 8 as part of an e-portfolio. Using an SQL database, data input is digitalised and primary data analysis is automated. Results are shown instantly, including self-assessment and mean cohort values, and in semester 8 a comparison between self-assessment values of both measurement points. Data from one cohort (N=90) was used to test for competency development in general and for each competency group. Wilcoxon signed-rank test was performed in SPSS with n=75 students, 15 of original sample were excluded due to lack of consent/missing data. Post-hoc power analysis was performed in G\*Power.

**Summary of Results:** Significant differences between two times of measurement were found. In semester 8, students reported significantly higher perceived competency levels compared to semester 5 across all competency groups ( $z = -33.988$ ,  $p < .001$ ,  $r = .51$ ). Significant changes were found in each competency group, with largest increases in medical expertise ( $z = -19.163$ ,  $p < .001$ ,  $r = .61$ ), team competence ( $z = -11.248$ ,  $p < .001$ ,  $r = .58$ ), health and prevention competence ( $z = -12.162$ ,  $p < .001$ ,  $r = .57$ ), and management competence ( $z = -15.646$ ,  $p < .001$ ,  $r = .57$ ).

**Discussion and Conclusions:** Longitudinal data on students' competency development provides valuable insights as basis for self-reflection and mentor feedback, e.g. addressing of individual deviations from cohort. Data of a second and third cohort is being analysed to compare development patterns. Further research is needed to determine which factors influence competency development.

**Take-home Messages:** A self-assessment tool to document and assess competency development integrated into an e-portfolio found significant changes in students' competency levels across two measurement points, providing a basis for self-reflection and mentor feedback.

## #31 Short Communications - Self Assessment, Peer Assessment and Portfolios

314 (2128)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room L2, Level 1

### Development of an e-portfolio to enhance feedback on medical students' learning progress

#### AUTHOR(S):

- Yadira Roa-Romero, Charité-Universitätsmedizin Berlin, Germany (Presenter)
- Jan Vincent Wyszynski, Charité-Universitätsmedizin Berlin, Germany
- Martin Dittmar, Charité-Universitätsmedizin Berlin, Germany
- Selcan Ipek-Ugay, Charité-Universitätsmedizin Berlin, Germany
- Harm Peters, Charité-Universitätsmedizin Berlin, Germany
- Mandy Petzold, Charité-Universitätsmedizin Berlin, Germany

#### ABSTRACT

**Background:** Feedback is important for the learning progress of medical students and their professional development. Yet, many faculties lack a comprehensive feedback system. The aim of this project is to develop a tailor-made e-portfolio for students that provides a comprehensive overview of all formative and summative exam results in conjunction with level of workplace-performance based on set of Entrustable Professional Activities (EPAs).

**Summary of Work:** To identify student's needs for better feedback on their learning progress, a questionnaire was sent to all students of the undergraduate medical curriculum at the Charité-Universitätsmedizin Berlin (total n=2974) end of 2017. The questions asked whether students wanted more feedback on their learning progression and whether they would use an e-portfolio for this purpose (5-point scale ranging from 1=fully disagree to 5=fully agree). In addition, they were asked which features an e-portfolio should include. On basis of the results, an e-portfolio system was developed that covered the identified main contents and features.

**Summary of Results:** 1022 students participated (response rate=34%, mean age of 25 (SD=4), with 65 % being female). 50% of students wanted more feedback on their learning progress (M= 3.4; SD= 1.1) and 63% were interested in using an e-portfolio (M= 3.7; SD= 1.2). 81% of students wanted a mode to identify their strength and weaknesses, 72% a comprehensive overview of all exam results, and 66% more feedback on their progress in clinical skills, respectively. Since April 2018, an e-portfolio system has been developed which provides a comprehensive overview of all exam results, identifies strength and weaknesses and allows feedback on students' EPA-based workplace place-based performance. Students have been continuously involved in the e-portfolio development to ensure a good match to their needs.

**Discussion and Conclusions:** Students are key user of the e-portfolio system for a comprehensive feedback on learning progress. A needs assessment in students and the multistage involvement of students in the development process is key to the tailor-made design.

**Take-home Messages:** The development of an e-portfolio for feedback on learning benefits from the perspective of multiple stakeholders and the involvement of the students.



## #31 Short Communications - Self Assessment, Peer Assessment and Portfolios

315 (848)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room L2, Level 1

### Reflective practice promotion through electronic portfolio implementation in extramural dental internship

#### AUTHOR(S):

- Lorena Isbej, Pontificia Universidad Católica de Chile, Chile (Presenter)
- Claudia Véliz, Pontificia Universidad Católica de Chile, Chile
- Cynthia Cantarutti, Pontificia Universidad Católica de Chile, Chile
- Natacha Oyarzo, Pontificia Universidad Católica de Chile, Chile
- Daniel Ortuño, Pontificia Universidad Católica de Chile, Chile

#### ABSTRACT

**Background:** Portfolio is an assessment instrument that reports academic work in a period of time to demonstrate students' competences in the 'does' level in Miller's pyramid, with special emphasis on developing reflective practice. Particular needs were identified in the extramural internship at the School of Dentistry of Pontificia Universidad Católica de Chile. Methodologies and assessment were focused on the cognitive domain with lack of those that promote reflective thinking and professionalism. The aim of this study is to describe the implementation of an undergraduate electronic portfolio in a dental extramural internship, its evolution and perception after two years of experience.

**Summary of Work:** Implementation of an extramural internship electronic portfolio was analyzed including design, methodologies, assessment results, grades and students' perceptions.

**Summary of Results:** 104 students participated (2017 and 2018) supported by 5 tutors. Portfolio included different sections like standardized virtual clinical cases of adult and pediatric patients, reflection on action report, clinical activity record, honor commitment for plagiarism and confidentiality for clinical cases. Essays were used as methodology for promote reflection and a final work was assessed with rubrics. Formative and summative assessment accompanied by feedback were fundamental in the successful of the process. The grades improved between first and last work, with statistically significant difference ( $p=0,001$ ). There were no cases of plagiarism, likely due to the implementation of a software to detect it.

**Discussion and Conclusions:** In general strengths and weaknesses of this electronic portfolio were consistent with previously published experiences, as an exception that the academic work load and allotted time were mostly well evaluated by the students. In addition, plagiarism - an issue frequently mentioned in medical education - was not detected. With these results the portfolio responds to the proposed aim: being pertinent, coherent and feasible to implement.

**Take-home Messages:** In health professions it is fundamental to promote reflective practice as part of professionalism. For this purpose the portfolio is an excellent tool which will be successful with active participation of the students, tutors' support and feedback also being careful not to overload with activities leaving schedules protected for their development.

## #31 Short Communications - Self Assessment, Peer Assessment and Portfolios

316 (213)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room L2, Level 1

### Creating, launching and maintaining a new e-portfolio for foundation doctors in England

#### AUTHOR(S):

- Kata Várnai, Health Education England, UK (Presenter)
- Clare van Hamel, UK Foundation Programme Office (UKFPO), UK
- Angela Burton, Health Education England, UK

#### ABSTRACT

**Background:** All trainee doctors in England use an electronic portfolio (e-portfolio) to record their achievements. The content of e-portfolios is used to decide whether doctors progress to the next stage of training. Health Education England (HEE) replaced the e-portfolio for doctors in their first 2-years of training after university (foundation doctors) in August 2017. This is a business-critical service affecting over 100,000 NHS staff across England, as well as UK medical schools, the General Medical Council and Medical Royal Colleges.

**Summary of Work:** HEE replaced the commercial e-portfolio used for 10-years with an in-house product. Over 2-years a small regional HEE application ('NW Horus') was converted into a national e-portfolio service ('HEE Horus'). A multi-disciplinary project team - re-designed and built HEE Horus - transferred data from the old system - communicated with and trained new users. Feedback is regularly gathered from stakeholders using - surveys - workshops – email. This is used to inform detailed design/prioritisation decisions.

**Summary of Results:** 2016 Year 0: Pilot - 'light-touch' overhaul and roll-out to one region (mid-low satisfaction rating); 2017 Year 1: Full launch (low satisfaction rating); 2018 Year 2: First business as usual year (high satisfaction rating). Qualitative and quantitative analysis of user feedback and statistics from the e-portfolio during its first 2-years will be undertaken and the findings presented.

**Discussion and Conclusions:** Stakeholders were acutely affected by the changes and managing communication and dissenting voices was a significant challenge. The development of technical functionality led to an unanticipated and valuable review of local and national processes - many regional variations/misunderstandings were found. Involving users in planning and testing was central to the success of the project. We found that electronic systems drive behaviour both within and outside them and thus provide opportunities to encourage better engagement with the curriculum. Analysis of our processes, challenges and successes will be presented and used to explore how assessment system change management processes can be improved.

**Take-home Messages:** Scaling up a small local system proved more challenging than anticipated. Archiving was a significant endeavour and stakeholder apprehension added considerable complexity. A dedicated expert project team ensured that the e-portfolio has received the highest satisfaction rating in 7-years.

## #3J Short Communications - Humanities 1

3J1 (3399)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.31-32, Level 0

### Can a collaborative art-anatomy educational environment encourage creative thinking and learning skills?

#### AUTHOR(S):

- Krisztina Valter, Australian National University, Australia (Presenter)
- Alexandra Webb, Australian National University, Australia
- Lillian Smyth, Australian National University, Australia
- Bethany Lincoln, Australian National University, Australia

#### ABSTRACT

**Background:** Being able to think creatively is a highly desired skill in medicine. Yet, many medical students struggle in tasks that require a more creative approach, specifically in problem setting and solving. There is growing concern among educators, that undergraduate science courses are often not conducive to the development of these necessary skills. Therefore, it is important to explore ways we can support our students in gaining skills, which will be central in their clinical practice.

**Summary of Work:** Students enrolled in premedical program at the Australian National University were offered an intensive 3-week art-anatomy course, where the two disciplines are taught synergistically, by presenting anatomy content and artistic techniques simultaneously. Students are free to explore these techniques to create art works with anatomical content. A student art exhibition concludes the course. Students are assessed on their ability to express their anatomical knowledge in creative artistic ways that reflects their personal journey. The course is taught collaboratively by anatomy academics and a practicing artist educator.

**Summary of Results:** We conducted a pilot study where we analysed student (n=23) written submissions, specifically comparing their course application paragraph and the post-course reflections. Thematic analysis identified 5 main themes - transferable gains, space for exploration, tolerance for uncertainty, resilience, and skills vs. knowledge. All of these themes have been linked to creativity and creative thinking in the literature.

**Discussion and Conclusions:** Premed students were clearly struggling at the start of the course, as free exploration was novel to them, however as the course progressed, they embraced the new learning environment. Their reflections show evidence that they recognise the value of such free explorations, gaining valuable skills and becoming more innovative and productive in their learning.

**Take-home Messages:** Learning environment providing freedom for exploration can help students develop invaluable skills which are essential in studying medicine and in clinical practice.

## #3J Short Communications - Humanities 1

3J2 (980)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.31-32, Level 0

### ‘But I’m not artistic!’: How students’ attitudes towards medical humanities change over time

#### AUTHOR(S):

- Lucinda Richards, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore (Presenter)
- Tanya Tierney, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
- Lucy Rosby, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
- Michael Stanley-Baker, College of Humanities, Nanyang Technological University, Singapore

#### ABSTRACT

**Background:** Medical Humanities is part of the core curriculum at Lee Kong Chian School of Medicine (LKCMedicine). Medical humanities is becoming an integral part of many medical school curricula as it is recognised that the arts, and an understanding of narrative medicine, can deepen medical students’ understanding of the human condition from the perspective of patient, family and doctor.

**Summary of Work:** Our IRB-approved study examines students’ perceptions about the medical humanities curriculum at LKCMedicine. First year medical students completed an on-line questionnaire at four time-points over the course of an academic year. During this time period they attended three x 3-hour medical humanities sessions.

**Summary of Results:** Data analysis of a hopes and fears exercise revealed a broad range of attitudes prior to the start of the medical humanities course and widely held assumptions about the importance of being talented in that arts. Over time there were changes in students’ views about medical humanities. These changes included the perceived importance of being talented in the arts, and attitudes towards the relevance of medical humanities in medical training. Students’ appreciation of medical humanities developed over time.

**Discussion and Conclusions:** Our results provide evidence of change in student attitudes towards medical humanities over time, and how appreciation of medical humanities develops after starting the course.

**Take-home Messages:** LKCMedicine students’ appreciation of core medical humanities teaching develops during the first year of the MBBS course.

## #3J Short Communications - Humanities 1

3J3 (1451)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.31-32, Level 0

### Life education of hospital staff through humanistic works presentation

#### AUTHOR(S):

- **Kang-Ju Chou, Kaohsiung Veterans General Hospital, Taiwan (Presenter)**
- Yu-Ting Sun, Department of medical education, Kaohsiung Veterans General Hospital, Taiwan
- Ching-Shiung Wu, Department of medical education, Kaohsiung Veterans General Hospital, Taiwan

#### ABSTRACT

**Background:** Holistic care is believed to be able to bring better outcome of patients and have been the main goal of medical education in Taiwan. Although, the related knowledge is easy to understand, the corresponding behavior is difficult to build up. In this study, we conducted an exhibition of humanistic works of intern, PGY doctors and other hospital staffs about their experiences in caring for patients to help them reflect on the meaning of life.

**Summary of Work:** In May, July, and Dec. 2018, at the end of one year training, we carried out a one week exhibition of humanistic works of intern, PGY doctors and other staffs in Kaohsiung Veterans General Hospital (VGHKS). At the end of the week, we held an oral presentation. The authors needed to explain their works. After the whole activity, we conducted a e-questionnaire on hospital staff about their opinion of the meaning of life.

**Summary of Results:** There were 3357 staff in VGHKS in 2018, 1133 questionnaire were reclaimed, of them, 1114 (98.3 %) were valid. Staff who submitted the humanistic work, or attended the exhibitions or oral presentations had more positive attitude in meaning of life than those who did not ( $44.8 \pm 15.3$  vs  $37.5 \pm 9.1$ ,  $p=0.000$ ;  $39.6 \pm 10.8$  vs  $37.1 \pm 9.3$ ,  $p=0.000$ , respectively). Medical students (including intern and PGY doctors) and medical personnel students had higher positive attitude than other physicians ( $40.4 \pm 13.6$  vs  $35.4 \pm 8.2$ ,  $p=0.000$ ) and medical personnel ( $39.8 \pm 9.3$  vs  $35.8 \pm 7.7$ ,  $p=0.000$ ). There were no significant differences among physicians, other medical personnel and non- medical staffs.

**Discussion and Conclusions:** Treat the patient, and not just the disease has been the consensus in modern medicine. To reach this goal, we need sincere reflection about the meaning of life. By proposing the humanistic works, the presenters needed to reflect their experiences in caring for patients and be deeply aware of the real demand of life. In our study, we found that either by presenting or attending the exhibitions of humanistic works could help hospital staffs have positive attitude towards human life.

**Take-home Messages:** Presenting humanistic works could effectively help hospital staff to think positively about the meaning of life.



## #3J Short Communications - Humanities 1

3J4 (59)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.31-32, Level 0

### Fairy Tales and Psychiatry: a Psychiatry Residency's Experience

#### AUTHOR(S):

- Zheala Qayyum, Harvard Medical School / Boston Children's Hospital, USA (Presenter)
- Ryan Wallace, Yale Department of Psychiatry, USA
- Maria Kaliambou, Yale, USA

#### ABSTRACT

**Background:** Fairy tales are universal, crossing cultural, social, and generational boundaries. They demonstrate important developmental and psychological concepts in an engaging and relatable way. They accomplish these tasks in a manner that typical textbook, didactic forms cannot. We created an elective course in an adult psychiatry residency to highlight themes of development in an engaging format and stimulate interest in child and adolescent psychiatry (CAP), an underserved field in need of practitioners.

**Summary of Work:** The elective was held for monthly 90-min sessions based on David Kern's six-step approach 1: Problem identification and needs assessment 2: Needs assessment of targeted learners 3: Goals and objectives 4: Educational strategies 5: Implementation 6: Evaluation and feedback. Fairy Tales used: Cinderella, Hans Labyrinth, Little red riding hood, The Juniper Tree, Snow White and seven dwarfs, Star Wars, Harry Potter Example of a session- The Little Red Riding Hood: Preparatory readings of various versions of the tale. In-class actress portrayal the story. Discussion topics: The mechanics of story-telling. How the audience shapes the story and how stories evolve over time. The Oedipal complex and splitting. Play therapy and role-playing; projection onto the big bad wolf.

**Summary of Results:** The elective was well-received by trainees in the Psychiatry and Medical School programs. Participant feedback was collected after each session. After each session trainees were asked to identify important themes related to developmental theory. Participants demonstrated their ability to identify core features of the developmental theories through their written explanations, showing improved understanding and comprehension of key concepts.

**Discussion and Conclusions:** A formal curriculum based on this course is in development to share with other psychiatry residency training programs, possibly providing an engaging and novel way to meet ACGME milestones. What was important, based on participant feedback and educator experience, was to provide trainees with diverse perspectives in a setting that fostered creativity and playfulness with the material.

**Take-home Messages:** Fairy tales offer an opportunity to explore the inner world of the child, providing a glimpse into the fears and fantasies central to development. For learners, they illustrate theoretical concepts and provide a framework for deepening the conversation about our clinical interactions and the meaning-making process in therapy.

## #3J Short Communications - Humanities 1

3J5 (1627)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 0.31-32, Level 0

### Narrative perspective and reflective writing: A Longitudinal Elective in Health Humanities

#### AUTHOR(S):

- Alice Fornari, Donald and Barbara Zucker SOM at Hofstra/Northwell, USA (Presenter)

#### ABSTRACT

**Background:** Significant challenges facing medical education are the decrease in student empathy and increase in burnout over the course of medical school. Students need skills to maintain their ability to connect with patients and other health professionals, while also taking care of themselves. The Health Humanities (HH) addresses these challenges by focusing on the ways we absorb, interpret, and respond to stories in literature and other forms of art, offering a model focused on physicians' relationships with their patients, colleagues, society, and themselves. Various approaches and steps are being taken to reincorporate HH into medical education curricula. Even though a degree of consensus exists that HHs needs to be (re)introduced into medical education, the question still arises as to how?

**Summary of Work:** Our goal is to share the experience of offering a longitudinal elective and offer a curricular model specific to HHs and enable a protected space/time for students to explore HH and connect their professional experiences with patients and health professionals using narrative writing/reflective practice. This elective was placed in a central location in the evening of the final year to align with other required rotations and interviews for postgraduate training. Faculty, who are part of a CoP focused on HH and narrative writing, facilitate sessions. Logistics for optimum design/implementation will be described.

**Summary of Results:** 1. Pre/post student data to be reported: 1) Maslach Burnout Inventory scores and the 2) Connor Davidson Resilience Scale. Preliminary Data: Significant drop in Emotional Exhaustion Significant drop in De Personalization Personal Accomplishment increase "not statistically significant Resilience increased- not statistically significant . 2. Student and faculty feedback from exit interviews

**Discussion and Conclusions:** The purpose of this elective is to develop students' capacities for continuous reflection and self-regulation through the lens of HHs. Medical students who self-select to participate benefit from the content presented and the small group experience with peers and faculty. We anticipate students will continue to pursue this type of learning in their future and seek guidance to integrate HH into future learning environments they engage in as physicians.

**Take-home Messages:** Longitudinal electives can be successful. HH can frame teaching and learning specific to health, illness and professional identity formation.

## #3K Short Communications - Continuing Professional Development 1

### 3K1 (2349)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.14, Level 0

### Twelve tips to design a competency-based curriculum for continuing professional development

#### AUTHOR(S):

- Heather Lochnan, The University of Ottawa, Canada (Presenter)
- Simon Kitto, The University of Ottawa, Canada
- Robert Parson, The University of Ottawa, Canada
- Dianne Delva, The University of Ottawa, Canada
- Gary Viner, The University of Ottawa, Canada
- Paul Hendry, The University of Ottawa, Canada

#### ABSTRACT

**Background:** There is a growing worldwide awareness in the field of health professions education and research that successful implementation of competency-based medical education (CBME) requires embracing all stages of professional development (from undergraduate, through residency to continuing education). Despite increased levels of cognizance and even enthusiasm about the importance of the entire continuum for the ultimate goal of improved healthcare, much work still remains as CBME principles are not widely adopted in continuing professional development (CPD). If we expect a CPD curriculum to integrate CBME, competencies must be developed and clearly specified how they will fit into a coherent and implementable curriculum structure.

**Summary of Work:** This work was conducted to explore the current curriculum evaluation practices in an effort to identify effective strategies that could be used in the development of competency-based CPD programs. Most work to date is in the realm of CPD in family medicine, the best practices identified are transferable to and useful for other disciplines, educational contexts and countries.

**Summary of Results:** Based on published evidence, 12 practical tips were identified that can be used as a guide by all stakeholders involved in a competency-based CPD curriculum development.

**Discussion and Conclusions:** While CBME has been adopted in residency training programs, it has yet to be adopted by the CPD community. The CPD program at the University of Ottawa sought to fill this gap. Use of curriculum mapping for CPD and in particular for mapping to competencies (for the physician in practice) is still in its early stages. This study describes a strategy for curriculum development and evaluation as well as techniques to avoid the pitfalls we experienced. A systematic approach to curriculum mapping can be used to guide us in development of a comprehensive competency-based curriculum for health professionals. The eventual anticipated goal of our CPD curriculum mapping project is to create concepts that are transferable to other medical settings to inform the design and implementation of CBME in CPD.

**Take-home Messages:** In order to translate a competency-based approach into CPD, educational programs will have to refine curricula across health professionals education using curriculum mapping as an important tool of curriculum development and evaluation.

## #3K Short Communications - Continuing Professional Development 1

### 3K2 (1759)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.14, Level 0

### Development and Implementation of a Simulation-Based Short Course for Airway Management and Resuscitation during the First 5 Minutes of Cardiac Arrest in the Resource-Limited Primary Care Hospitals

#### AUTHOR(S):

- **Sung A Lee, The Catholic University of Korea College of Medicine, South Korea (Presenter)**
- Young-Min Kim, The Catholic University of Korea College of Medicine, South Korea
- Ji-Hoon Kim, The Catholic University of Korea College of Medicine, South Korea
- Young Min Oh, The Catholic University of Korea College of Medicine, South Korea
- Yeon Young Kyong, The Catholic University of Korea College of Medicine, South Korea
- Hyun Ho Jeong, The Catholic University of Korea College of Medicine, South Korea

#### ABSTRACT

**Background:** Continuing professional development (CPD) program of practical airway and resuscitation training (ART) for primary care practitioners has been limited in Korea. Based on the educational needs of local primary care practitioners, we developed a simulation-based short course for airway management and resuscitation during first 5 minutes of in-hospital cardiac arrest and have implemented to local practitioners worked in resource-limited primary care hospitals.

**Summary of Work:** Following several meetings and a focus group interview with local practitioners, we developed a 3-hour ART course and implemented to the primary care practitioners worked in various types of local hospitals. The course was consisted of 1) brief lecture on current resuscitation guidelines and crisis resource management concept; 2) hands-on workshop for related procedures such as basic airway maneuvers, bag-mask ventilation, chest compressions and automated external defibrillator use; and 3) patient simulation using the rapid cycle deliberate practice method including within event or stop-action debriefing. The tailored scenarios were used for the patient simulations according to the participants' specialties and hospital settings (outpatient clinic waiting area, endoscopy or procedure room). We evaluated the participants' responses on the course using a post-training questionnaire.

**Summary of Results:** During the 2-year implementation period, 7 courses have been implemented to 81 local primary care practitioners with various specialties. The participants' overall satisfaction (10-point scale) to the course were very positive [10 points in 73 (90%) and 9 points in 8 (10%)]. The level (5-point scale) of recommendation of the course to the other local practitioners was high [5 points in 72 (89%) and 4 points in 7 (11%)]. Many participants positively commented on the practical training through deliberate practice and realistic experience on the uncommon crisis situations in their resource-limited setting.

**Discussion and Conclusions:** A simulation-based ART course including tailored patient simulations using rapid cycle deliberate practice method was able to provide realistic experience to the local primary care practitioners.

**Take-home Messages:** This simulation-based short course is a good example of how patient simulations can be effectively used for the CPD program on a specific topic requiring practical skill acquisition and maintenance of local practitioners work in the resource-limited hospitals.

## #3K Short Communications - Continuing Professional Development 1

**3K3** (2226)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.14, Level 0

### Advancing Wellness and Improving Joy at Work Through Professional Development

#### AUTHOR(S):

- Janine Shapiro, University of Rochester School of Medicine and Dentistry, USA (Presenter)
- Michael Privitera, University of Rochester School of Medicine and Dentistry, USA

#### ABSTRACT

**Background:** Research demonstrates a high incidence of clinicians stress, burnout, and depression. Wellness programs might not only benefit the individual clinician but also be vital to the delivery of high quality healthcare. Approaches to improving wellness must include Individual and institutional approaches.

**Summary of Work:** Twenty-nine one-hour long wellness seminars for faculty and clinicians were designed and implemented over a three-year period. Initial need analysis was performed using current literature on factors involved in burnout of physicians. Additional seminars were planned based on individual need analysis from attendees. Overall attendance, level of satisfaction, and self-reported changes in knowledge, skills and behavior/attitudes were analyzed. Using content analysis, written input from participants were analyzed inductively and then clustered into emergent themes.

**Summary of Results:** During the first year of implementation, there were 612 participants with an average of 56 attendees per seminar. Examples of topics included burnout overview, mindfulness, resilience, finding meaning, time management, cognitive load, managing challenging patient situations and dealing with difficult patients, building autonomy, and electronic medical record efficiency. Seminars were highly rated for content and presentation. Plans to transfer knowledge and wellness tools to existing roles were reported by attendees. Several themes emerged as recommendations to the organizational leadership to help reduce burnout through individual and institutional interventions. This has led to the design and implementation of additional professional development offerings to advance wellness. These include a new series on tips and tools on the use of the electronic health record, a series on mindfulness, and an educational program for leaders on human factors-based leadership for faculty and clinician wellness.

**Discussion and Conclusions:** These wellness seminars have served as an important venue to learn what is important to clinicians to help them in their resilience and for sustaining practice. Seminar discussions also helped give safe places for discussion of the need to change the path of the increasing incidence of high-level burnout.

**Take-home Messages:** The practice environment has been noted to have an important impact by hospital leadership, has opened the door to continued progress of our wellness efforts, and has emerged as an important new way of affecting the medical culture in the institution.



## #3K Short Communications - Continuing Professional Development 1

### 3K4 (1828)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.14, Level 0

### Authentic or demonstrated reflection? The reflection process of healthcare professionals during reflective conversations in a leadership development curriculum

#### AUTHOR(S):

- Anne van Tuijl, Radboud University Medical Center, the Netherlands (Presenter)
- Hiske Calsbeek, Radboud University Medical Center, the Netherlands
- Hub Wollersheim, Radboud University Medical Center, the Netherlands
- Roland Laan, Radboud University Medical Center, the Netherlands
- Petra van Gurp, Radboud University Medical Center, the Netherlands
- Lia Fluit, Radboud University Medical Center, the Netherlands

#### ABSTRACT

**Background:** Reflection is an essential skill of healthcare professionals (HCPs) being lifelong learners. Reflective writing assignments are common used in medical curricula to stimulate reflection. As reflection is a complex and multifaceted activity, there is a call to broaden the methods for stimulating reflection. In a national master on patient safety and quality improvement for HCPs, reflective conversations (RCs) between student and teacher on HCPs development in leading a quality improvement project are part of the curriculum. To obtain insight in the reflective process of HCPs during RCs, these conversations were analyzed.

**Summary of Work:** We qualitatively analyzed 16 RCs to get insight in the reflective process of HCPs (7 nurse specialists, 5 medical specialists, 1 allied health professional, 1 healthcare jurist, 1 pharmacist and 1 health scientist) based on Mezirow's reflection levels: content, process and critical level. Two weeks after the RC, semi-structured interviews with participants (N=16) were held to evaluate the RC.

**Summary of Results:** HCPs most often described their development instead of reflecting on it. Between one third and one fourth of the HCPs were unable to show reflection on their strengths and/or weaknesses on a content, process or critical level. Two HCPs showed critical reflection on strengths and/or weaknesses. In contrast with showing reflection during the RCs, most HCPs described themselves as reflective professionals during their work. Overall, HCPs experienced the RCs positive. Two HCPs described plans for practising new behaviour as a result of their RC.

**Discussion and Conclusions:** Reflection, especially critical reflection, during structured RCs does not occur in most meetings. However, most HCPs considered themselves as being reflective in daily practise. It can therefore be questioned whether structured RCs regarding leadership development which take place outside the workplace are a valid way to demonstrate reflective skills. Future research should focus how reflection actually takes place in practice.

**Take-home Messages:** Medical curricula need to find ways to help develop and measure real reflective skills instead of demonstrated reflection in uniform formats outside the workplace. By this, we are able to further stimulate reflection in a meaningful way, and in different contexts.

## #3K Short Communications - Continuing Professional Development 1

**3K5** (3366)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 0.14, Level 0

### **Framing Professionalism: A Comparison of Measurement Instruments versus Policy Statements: Implications for CPD**

#### **AUTHOR(S):**

- **Betsy Williams, Professional Renewal Center, USA (Presenter)**
- Fred Hafferty, Mayo Clinic, USA
- Lowell Brown, Arent Fox LLP, USA
- Dillon Welindt, Wales Behavioral Assessment, USA
- Michael Williams, Wales Behavioral Assessment, USA

#### **ABSTRACT**

**Background:** The understanding of professionalism in medicine has moved from mastery of rules concerning professional behavior to development of professional identity. Professional identity involves the development of an overarching schema that provides guidance in situations where a specific rule may be ambiguous. This process is grounded in an evolving series of interactions between the individual and their social contexts/learning environments. As a lifelong process, developing a professional identity requires understanding the relationship between social structure and professionalism as a formal construct necessary for effective lifelong learning. However, how organized medicine sees this construct-individual-content relationship is not well understood. In this study we examine whether the organizational structures that constitute the medical industry are consistent with support of medical professionalism from an identity formation perspective.

**Summary of Work:** We sampled legal statutes, human resources policies, and medical staff and specialty board policies/codes to abstract themes and behavioral indicators of professionalism. We applied the same thematic analytic approach to a sample of professionalism measurement instruments. We then compared and contrasted these sets of professionalism descriptors.

**Summary of Results:** Results suggest that consistent with a hierarchical structure of professionalism that is founded in behaviors and progressing to a hierarchy of constructs to a broad position of identity, the social-institutional codas move from specific to general descriptions.

**Discussion and Conclusions:** The understanding of professional behavior is grounded in specific social requirements that specify a minimal level of acceptable professional behavior. As physicians practice becomes increasingly integrated into formal organizational settings, behavioral expectations must be reflective of and consistent with bureaucratic, institutional and market considerations suggesting that professionalism is an active process in which social institutions influence practitioners' sense of professionalism across their career. It also consistent with the view that continuous professional development/educational support structures should provide learning environments and lifelong learning opportunities that support the professional identity formation of physicians.

**Take-home Messages:** 1. Professionalism is founded in behaviors progressing from a hierarchy of constructs to a broad position of identity and social-institutional codas. 2. Professionalism is dynamic. 3. Practitioners can be supported through CPD opportunities that are culturally/socially sensitive and support professional identity development.

## #3L Short Communications - Clinical Teaching

### 3L1 (3400)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room L7, Level 1

### Learning guide on ward round, clinics, and medical procedures for undergraduates

#### AUTHOR(S):

- Dalal Fadlalla Abouda Mohamed, Royal Free Hospital, UK (Presenter)
- Paul Dilworth, RFH, UK

#### ABSTRACT

**Background:** Ward rounds are very important in clinical learning process for medical students, and they represent a good opportunity for consultants, and junior doctors to teach and show the bedside techniques and clinical signs on real patients with acute conditions. On the other hand, clinics are important access to patients with chronic/stable disease. Teaching medical students in the clinic and ward round is becoming very challenging nowadays in NHS because of time pressure, number of patients per clinic, and also the difficulty to find the balance between teaching medical students and training the junior doctors.

**Summary of Work:** Using Delphi method by asking doctors at different levels (i.e. consultants, speciality registrars, Core trainees, and foundation doctors) plus 4th, and 6th year medical students about what do they think the problem is, and how we can improve the learning process. Learning guides for a total of six procedures in 4th-year curriculum (LP, PEG Tube insertion, bronchoscopy, OGD, Colonoscopy, and ERCP) have been designed initially for undergraduates later they were used by junior doctors. For WR, a booklet has been designed, containing the activities and skills to maximise students' learning on the ward round. For the clinics, a checklist has been implemented for 4th-year medical students to help medical students to get the maximum out of attending clinics, especially that clinics are the most challenging one. Pre-intervention questionnaires collected from 20 students at one placement, then pilot the guides for procedures, booklet for ward rounds and checklist for clinics over 2 weeks period. Post-intervention questionnaire collected.

**Summary of Results:** A total of 60 students participated in this project with more than 75% of them had a good response to the above interventions and more than 80% had excellent effect.

**Discussion and Conclusions:** Ward rounds and clinics are very vital in medical students learning. Not only to learn clinical skills but also to acquire and observe non-clinical skills.

**Take-home Messages:** Active learning by engaging medical students during ward rounds, clinics and medical procedure is medical. Simple interventions will lead to achievable goals. Possible recommendations to improve undergraduate teaching is one-minute learning theory to overcome the time challenge in clinical teaching.

## #3L Short Communications - Clinical Teaching

### 3L2 (1472)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room L7, Level 1

### Development of innovative clinical care competency program for nursing students

#### AUTHOR(S):

- Shu-Fen Shen, National Yang-Ming University, School of Nursing, Taiwan (Presenter)
- Heng-Hsin Tung, National Yang-Ming University, School of Nursing, Taiwan
- Li-Chiu Lin, Hungkuang university, School of Nursing, Taiwan
- Chia-Ju Hsieh, Cardinal Tien Junior College of Healthcare and Manage, School of Nursing, Taiwan

#### ABSTRACT

**Background:** The main learning outcome of nursing education is clinical practice competency and cultivate qualified and reliable nurses who are capable to work in clinical side. However, we found that novice nurses quit quickly due to reality shock in Taiwan. The leader and senior nurses also identify the novice nurses' skills and critical thinking need to be improved to provide good quality of care. To enhance clinical competences, scenario simulation was used to facilitate student's critical thinking and build their abilities to manage patients' health related problems.

**Summary of Work:** This study was conducted by historical comparative research design which aimed to examine efficacy of scenario simulation of enhancing clinical competency. This historical comparative study was conducted from May 2016 to Jan 2017. The scenario simulation education intervention has four stages, including (1) Establish task force, (2) Development of case scenario, (3) OSCE (Objective Structure Clinical Examination), (4) Examine outcome of the intervention.

**Summary of Results:** 1. The quantitative outcome of course is the average satisfaction score, which was around 4.5 out of 5. The qualitative outcome of course evaluation was that many students expressed this curriculum made learning more interesting and had positive impact on their clinical competency. However, they felt more stressed in comparison with traditional lecture course. 2. Compared to other students, these students who underwent the intervention gained much better clinical competency and critical thinking skills evaluation by clinical preceptors. 3. Notably, the employment rate of this group who underwent scenario simulation education is 90%, compare to the employment rate was around 47-52% in past three years.

**Discussion and Conclusions:** Although the scenario simulation course required much more resources compare to traditional lecture, the course should be implemented since the outcome of the course is inspiring and outstanding. The nursing faculty involve the simulation course were volunteer with enthusiasm. How to use the scenario simulation course and examine by OSCE should be roundly use with limited resource is the next step.

**Take-home Messages:** Combing Concept map, scenario simulation and OSCE is good teaching strategy to develop the nursing students' critical think and nursing skills. The program can bridge the gap between education and clinic.

## #3L Short Communications - Clinical Teaching

### 3L3 (2966)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room L7, Level 1

### Teaching normal - teaching physical examination skills on healthy patients

#### AUTHOR(S):

- Wern Ee Tang, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore (Presenter)
- Teck Yee Wong, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

#### ABSTRACT

**Background:** Physical examination skills training is a fundamental component of medical education. There are many different methods of teaching physical examination techniques with no clear evidence to support one particular model over another. At the Lee Kong Chian School of Medicine (LKCMedicine), physical examination skills training begins in the first year of medical school with the teaching of physical examination techniques on healthy volunteer patients and simulated patients. Students' physical examination skills are assessed during their Year 2 Objective Structured Clinical Examinations (OSCEs) (which includes communications, physical examination and procedural skills stations) before they progress to their clinical years.

**Summary of Work:** We reviewed the pedagogical principles underpinning the Clinical Methods course at LKCMedicine, the course delivery, student and faculty feedback and students' performance in the physical examination stations at the Year 2 OSCEs over 4 years.

**Summary of Results:** Communications of expectations for students was established via Physical Examination Guides (which outlined the steps for the physical examination stations) and Physical Examination Videos. Clear communications to learners at the outset of the course that the learning outcome of the course was the acquisition of physical examination techniques and the recognition of normal signs was important to students. Feedback from Year 3 clinical faculty on student performance in bedside physical examination during their clinical postings has been positive. However, faculty teaching the physical examination course in Year 1 & 2 have highlighted some challenges encountered when teaching physical examination techniques without the presence of abnormal signs and the formulation of differential diagnoses. Performance in the physical examination stations at the Year 2 OSCEs has been satisfactory with more than 70% of students passing the physical examination stations.

**Discussion and Conclusions:** The OSCE results and feedback from students and clinical faculty suggest that this approach is effective in developing psychomotor skills in physical examination. Further faculty development to address the challenges raised by faculty will be beneficial.

**Take-home Messages:** Teaching physical examination techniques on normal subjects is an effective way of developing physical examination skills in medical students in the pre-clinical years.



## #3L Short Communications - Clinical Teaching

### 3L4 (2376)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room L7, Level 1

### Dignity during work-integrated learning: what does it mean for supervisors and students?

#### AUTHOR(S):

- Paul Crampton, Hull York Medical School & Monash Centre for Scholarship in Health Education, UK (Presenter)
- Oliva King, Monash Centre for Scholarship in Health Education, Monash University, Australia
- Corinne Davis, Monash Centre for Scholarship in Health Education, Monash University, Australia
- Allie Clemans, Monash Centre for Scholarship in Health Education, Monash University, Australia
- Charlotte Rees, Monash Centre for Scholarship in Health Education, Monash University, Australia

#### ABSTRACT

**Background:** Work-integrated learning (WIL) is becoming a key component of higher education. While the educational benefits of WIL are well-recognised, literature indicates that healthcare students commonly experience dignity violations during WIL. Dignity relates to treating someone with respect in a way that acknowledges their worth, but what this means depends on context. In order to address concerns about student dignity during WIL, an important first step is to identify what dignity means to students and supervisors. This research seeks to answer the question: what are supervisor and student understandings of dignity during WIL across multiple disciplines?

**Summary of Work:** Seven group and 58 individual semi-structured interviews were undertaken between June 2017 and May 2018, with 30 supervisors and 46 students from medicine, nursing, counselling, education, business, and law disciplines. Participants were asked to describe their understandings of workplace dignity. A team-based, five-stage framework analysis was used to examine the data.

**Summary of Results:** Although the majority of participants struggled to articulate their understandings of dignity, 826 understandings were captured categorised into 23 conceptualisations. The ten most common conceptualisations were (descending order): respect, freedom from abuse, equality, care, inclusion, right for learning opportunities, value, comfort, freedom of expression and acknowledgement of person. In terms of concept valence (e.g. positive, negative), supervisors used more positive terms, whereas students used more negative terms for articulating dignity. Regarding levels (i.e. individual, relational or environmental), workplace dignity was described most frequently at the relational-level: a 'two-way street'. Subtle differences were found between disciplines (e.g. inclusion more common for health, equality for non-health).

**Discussion and Conclusions:** Our findings align with existing literature conceptualising workplace dignity as a multi-faceted and co-constructed concept. Our findings add to this literature by highlighting how dignity is conceptualised during WIL. We suggest the need for clearer understandings and expectations of dignity ahead of WIL.

**Take-home Messages:** These findings raise awareness of what dignity during WIL means for supervisors and students across six disciplines. This knowledge is a first crucial step towards designing education initiatives that aim to encourage dignified workplace learning in order to enhance the experiences of both supervisors and students and ultimately protect end-users (i.e. patients/clients).

## #3L Short Communications - Clinical Teaching

3L5 (292)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room L7, Level 1

### Facilitating Affective Elements in Learning - in a Palliative Care Context

#### AUTHOR(S):

- Janet Mattsson, Red Cross Red Crescent University College, Sweden (Presenter)

#### ABSTRACT

**Background:** The affective domain is very present in the activities of the healthcare environment but has remained as a relatively unrecognized phenomenon. The aim of this study was to explore ways clinical supervisors facilitate the learning of the affective elements of professional competence in a clinical palliative care environment.

**Summary of Work:** The affective and transformative learning processes taking place requires special support. However, little is known about how clinical supervisors facilitate this learning processes. A qualitative, explorative study was designed to capture supervisors perceptions of their supervision using semi-structured interviews. Six experienced clinical supervisors working within a palliative care context were recruited using convenience sampling. Data were analyzed using inductive content analysis.

**Summary of Results:** The overall results of this study, which aimed at exploring and make hidden knowledge on how clinical supervisors facilitate the affective elements of learning, visible, in the palliative care context, show how the affective elements were viewed as the foundation for learning, clinical supervision, and professional competency. The core of learning in the affective domain derived from the supervisors' experience of the elements gained in a clinical context. Four main themes were identified; building a relationship, creating space for learning, creating a pedagogical environment, and mirroring,

**Discussion and Conclusions:** The context of informal workplace learning becomes interesting when analyzing palliative home care. The student is allowed to become a part of the everyday living of the patient with the exclusive opportunity to obtain information on the patient's condition, home life, activity reactions to medications, change in relationships, coping strategies and much more. It is clear that both physical and mental learning environment is created at homes, as well as in the car, and a social and emotional climate where the students can learn safely are created as well.

**Take-home Messages:** experienced clinical supervisors use multiple different ways to facilitate learning of affective elements. and are willing to use themselves, their lived experiences, challenges and examples of coping as a learning resource for the students. However, the facilitation processes take place within the hidden curriculum and are based on the hidden knowledge and experiences of the clinical supervisors.

## #3M Short Communications - Student Engagement

### 3M1 (895)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.94-95, Level 0

### Teachers' perspectives on student-staff partnership: Limited space for students or co-creation?

#### AUTHOR(S):

- **Samantha Martens, Maastricht University, the Netherlands (Presenter)**
- Ineke Wolfhagen, Maastricht University, the Netherlands
- Jill Whittingham, Maastricht University, the Netherlands
- Diana Dolmans, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** An upcoming interest in student-staff partnerships for improving medical education is going on. Student-staff partnerships are collaborations in which students and teachers contribute to improving education by adding each their unique perspective in decision-making and implementation processes (Cook-Sather, Bovill and Felten, 2014). Teachers have subject-matter expertise and pedagogical knowledge; students on the other hand provide the perspective of experiencing education in daily practice. Combining these perspectives can contribute to educational development and improvement. Students are willing to participate in these partnerships, but teachers remain hesitant.

**Summary of Work:** This study addressed the following questions: 'What are teachers' perspectives about student-staff partnership for improving educational quality?' and 'Under which conditions can student-staff partnership contribute to educational quality from the teachers' perspective?'. We have conducted a semi-structured interview-study among fourteen course coordinators of four health bachelor programs. We used Bovill and Bulley (2011)'s levels of student participation as sensitizing concepts when analyzing the data.

**Summary of Results:** Three main perspectives were identified: teachers teach and students study (i.e. teacher have expertise and students acquire knowledge), teachers teach and value student feedback (i.e. teachers use student feedback to improve their teaching), or teachers and students co-create (i.e. they both contribute substantially to improving education and learn from each other). In order to reach the co-create level of partnership the following criteria were discussed: Teachers are open and aware to involve students, they create dialogues with students, students are motivated to co-create, the organization is supportive, and teachers have the final responsibility.

**Discussion and Conclusions:** Teachers' perspectives on developing a partnership with students seem to shift: from more traditional approaches in which students have limited space, to perspectives in which student input is valued, and finally a setting in which both students and teachers co-create education and learn from each other when improving education. Struggles reported deal with perceived differences in responsibilities.

**Take-home Messages:** The contribution of student-staff partnership on the continuous improvement is a topic that gains interest. Teachers' perspectives about involving students in co-creating education differ from providing limited space and value to student input towards a co-creation in which students and teacher collaborate equally and learn from each other.

## #3M Short Communications - Student Engagement

### 3M2 (3169)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.94-95, Level 0

### AMEE Students: an example of where student engagement is really meaningful!

#### AUTHOR(S):

- Basil Ahmad, Jordan University of Science and Technology, Jordan (Presenter)
- Evangelos Papageorgiou, European Medical Students' Association - EMSA
- Aikaterini Dima, International Federation of Medical Students' Association - IFMSA
- Beatriz Atienza Carbonell, University of Valencia Medical School, Spain
- Tessa Noijons, University of Utrecht, the Netherlands
- Mohsna Bhiri, International Federation of Medical Students' Association - IFMSA

#### ABSTRACT

**Background:** The AMEE Student Task Force is a group of enthusiastic health professions' students that travel from all over the world to make a change in their own education by participating in the annual AMEE Conference.

**Summary of Work:** Each year, EMSA and IFMSA, organisations that represent medical students in European and international level collaborate with AMEE to facilitate the process of selecting a group of students called the AMEE Student Task Force (STF). Students from all health disciplines are welcomed to participate to promote the interprofessional aspect of AMEE. The selection process follows objective criteria based on each students' application in addition to regional and gender representation, while being anonymous to ensure the objectivity of the process. Each year, the STF is getting more and more popular, exceeding 1200 applications in 2018. After selection, the students are explained their tasks and are paired into groups that will help enhance the team building between the members of the STF. During the conference, the students dedicate half of their time in helping the meeting run smoothly and half of their time in participating actively in the conference sessions.

**Summary of Results:** More than 700 health professions' students had the chance of being an AMEE STF member since the creation of this tradition back in 2007. Students have the chance to participate in the biggest Health Professions' Education conference and explore their full potential in the field of Medical Education. During the past years, the STF evaluations from the AMEE Conference are getting better and better, with 53% of the people considering the students' contribution to the conference as 'excellent' in 2018.

**Discussion and Conclusions:** Through their partnership, AMEE, EMSA, and IFMSA have managed to build a community of medical education leaders, the AMEE Students. With this experience, they are empowered to give back in their local settings advocating for better education. The continuous support they get from AMEE, EMSA, and IFMSA through other initiatives (Grants, Courses, ASPIRE Awards, Fellowship Program) is shaping the educators of tomorrow.

**Take-home Messages:** Meaningful student involvement can come in many forms and should not only be encouraged at an institutional level but at an organizational level as well.

## #3M Short Communications - Student Engagement

### 3M3 (1747)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.94-95, Level 0

### Teaching and learning interdisciplinarity: a student-driven project

#### AUTHOR(S):

- **Shams Ribault, Faculté de Médecine Lyon Est, France (Presenter)**
- Félix Boivin, Faculté de Médecine Lyon Est, France
- Quentin Paulik, Faculté de Médecine Lyon Est, France
- Tasnim Fareh, Faculté de Médecine Lyon Est, France
- Gilles Rode, Faculté de Médecine Lyon Est, France
- Jérôme Etienne, Faculté de Médecine Lyon Est, France

#### ABSTRACT

**Background:** It is common knowledge that interdisciplinary approach plays a major role in medicine and medical education in order to better understand complexity. Moreover, medical research is fuelled by innovation, which requires openness to various specialist fields. However, despite this evolution, French medical students are not taught to deal with these issues due to the lack of tools allowing us to think outside the medical box.

**Summary of Work:** A teaching and learning interdisciplinarity student-driven project was conducted by a team of fifteen health students in a French medical school. We had two objectives: on one hand, to raise health students' awareness to the importance of working with other disciplines in healthcare and scientific research, and on the other hand to provide interested students with the material and human resources to develop their own interdisciplinary projects and creativity within the Faculty (prototyping, education projects, research projects). To answer these objectives, we organized conferences involving researchers, health professionals, and workshops to train students in other skills, like 3D printing. We organized a summer school focusing on teaching innovation in health studies and in general practice. To promote student-driven interdisciplinary projects, we worked in partnership with an engineering school's FabLab. We contacted students from other fields (humanities, paramedical) and mentor teachers.

**Summary of Results:** With the support of the Faculty, four conferences, three workshops, and a summer school were organized. 40 students attended our first conference in January 2019. The aim of this conference was to introduce students to interdisciplinary work, based on experiments and research carried out by students in different areas such as technical devices, immunology, biostatistics, connected tools or technology adapted to disabilities. Conferences about medicine and astronauts, artificial intelligence, arts were planned.

**Discussion and Conclusions:** We believe this project helped health students to appreciate interdisciplinary practice in healthcare and scientific research.

**Take-home Messages:** Alone, we go faster ... But together, we go further! This is exactly what this project illustrates: in a world of perpetual improvement we need to go beyond the barrier of self-sufficiency in medicine. Opening to other fields is necessary to be a part of the progress in healthcare.



## #3M Short Communications - Student Engagement

### 3M4 (363)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.94-95, Level 0

### The effect of admission year and effort-reward imbalance model on medical students' engagement

#### AUTHOR(S):

- Jung Eun Hwang, The Catholic University of Korea, College of Medicine, South Korea (Presenter)
- Na Jin Kim, The Catholic University of Korea, College of Medicine, South Korea
- Nani Kwon, The Catholic University of Korea, College of Medicine, South Korea
- Su Young Kim, The Catholic University of Korea, College of Medicine, South Korea

#### ABSTRACT

**Background:** Engagement is believed to be a positive index of academic well-being, but not widely studied in medical education. Under the assumption that characteristics of medical students admitted each year might not be the same, we tried to investigate the relationship between admission year and engagement. This research also re-examined association between effort-reward imbalance (ERI) model and engagement.

**Summary of Work:** Ninety-nine students in 2017 (response rate: 18.97%) and 65 in 2018 (12.38%) completed an online questionnaire that measured demographic variables (sex, age, affiliation, survey year, and grade), ERI, over-commitment, negative affect, and engagement in the Catholic University of Korea, College of Medicine. We figured out their admission years based on grades that they responded. In a process of checking assumptions of multiple regression, affiliation and grade were removed from input variables. Categorical regression analysis was carried out.

**Summary of Results:** It was found that explanatory variables accounted for 31.2% of engagement variance (Adjusted R square = .255). Admission year (Beta = .290), ERI (Beta = .254), over-commitment (Beta = .339), and negative affect (Beta = -.363) were significant at significance level of .05. As for relative importance, admission year and ERI accounted for 13.4% and 27.9% of the importance in the model. Based on quantification of nominal variables, students admitted in 2013 showed the lowest engagement, and students admitted in 2018 reported the highest engagement, which was different from the pattern across grade. When effort and reward were balanced, engagement was higher than when effort and reward were imbalanced.

**Discussion and Conclusions:** Most research has assumed that study variables show similar levels across admission year. However, this research found that a group of students admitted in a particular year might be actively involved or less involved in study. Admission process which changes every year might affect academic or psychological characteristics of admitted students. It also reaffirmed our unpublished data that reward for academic effort was significantly related to medical students' engagement.

**Take-home Messages:** Admission year could be one of demographic variables in explaining medical student engagement. In addition, focusing on offering reward for students' effort could boost engagement.

## #3M Short Communications - Student Engagement

### 3M5 (943)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.94-95, Level 0

### Medical students as promoters of academic training in the undergraduate level: A view of medical students' scientific societies from Peru

#### AUTHOR(S):

- **Anderson Soriano-Moreno, Sociedad Científica de Estudiantes de Medicina de la Universidad Peruana Unión, Peru (Presenter)**
- Milton A. Romero-Robles, Sociedad Científica de Estudiantes de Medicina de la Universidad Nacional del Santa, Peru
- Jhosuny Perez-Fernandez, Sociedad Científica de Estudiantes de Medicina Veritas, Peru
- Alexander Mayor-Vega, Sociedad Científica de Estudiantes de Medicina de la Universidad de San Martín de Porres, Peru

#### ABSTRACT

**Background:** Peruvian Medical Student Scientific Society (SOCIMEP) is an organization led by medical students with the aim to promote research and academic training at the undergraduate level. It was founded in 1992 and currently, 40 medical schools of different Peruvian universities have a local scientific society affiliated to SOCIMEP. Inside the structure of each local society, the Academic Committee is in charge to promote the planning and realization of continuous medical education activities, such as conferences and workshops, based on medical student's needs. This study aimed to describe academic activities organized by the Peruvian medical students scientific societies during the last years.

**Summary of Work:** Retrospective observational study. We reviewed 119 Single Records of Activities (SRA) corresponding to years 2015-2018. The SRA is the document where the local's societies report periodically their organized activities to SOCIMEP describing the main characteristics. For the data analysis, absolute and relative frequencies were calculated. Activities with incomplete variables and not related to medical topics were excluded.

**Summary of Results:** During the period analyzed, 729 academic activities were performed involving a total of 3520 hours and 23192 attendees. We observed that the number of organized activities increased from 59 in 2015 to 362 in 2018. All the activities had the aim to reinforce basic and clinical medical sciences. Most of the activities were lectures (68.3%), 14.5% workshops and 10.3% theoretical courses. Activities based on peer learning were frequent (29.4%) and we observed an increase in the activities based on this methodology (8.5% to 31.2%).

**Discussion and Conclusions:** This study shows that medical students thought Peruvian scientific societies can organize a big amount of academic activities to complement preparation in medical schooling. From 2015 to 2018, the number of activities multiplied six-fold, showing that there is a great commitment of the students belonging to the societies with medical education. In addition, it was observed that the number of registered attendees to the activities was not negligible, demonstrating that there is great acceptance from the medical student population.

**Take-home Messages:** In Peru, medical students perform a great number of medical education activities that would be helpful to complement undergraduate training.

## #3M Short Communications - Student Engagement

### 3M6 (3167)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.94-95, Level 0

### ASPIRE Student Engagement Criteria as a tool for promoting educational leadership with Brazilian Medical Students

#### AUTHOR(S):

- Ugo Caramori, UNICAMP, Brazil (Presenter)
- Eliana Martorano Amaral, UNICAMP, Brazil
- Henry de Holanda Campos, UFC, Brazil
- Jacqueline Costa Teixeira Caramori, UNESP, Brazil
- Maria Helena Senger, PUC-SP, Brazil

#### ABSTRACT

**Background:** The concept of student engagement for Brazilian students still assumes great political perspective. It's seen as adherence to political positions and little to their involvement in the multiple spheres of the academic world. This perspective contrasts with definitions of student engagement in the literature. Students often understand their opinion and participation as opposition, or fighting to political rights, not as collaborators focusing on the improvement of the educational programs, complimentary to faculty members and academic administrators

**Summary of Work:** The FAIMER-Brasil Regional Institute promoted the initiative FAIMER Jr. - Educators of Tomorrow, an itinerant series of 4-8hs workshops held in conjunction with national and regional congresses of the Brazilian Medical Education Association (ABEM) focusing on expanding, discussing and provoking the concept of student engagement, making use of the criteria used in the ASPIRE-to-Excellence award for Student Engagement, AMEE - An International Association for Medical Education. We made an explicit call to the Brazilian medical student leaderships, in order to build an audience capable of conducting, at the forefront, the proposal of bringing faculty development to the student spectrum.

**Summary of Results:** Participants were encouraged to guide their thoughts by their context, locally and nationally. It is observed that through this moment, the students come to understand the engagement as a concept, and integrate the socio-cultural perspective to it. Understanding the conjunctures that make one of the criteria appropriate or not to the Brazilian reality is a creative stimulus for them to think of proposals on how to reformulate the idea of engagement in the face of the possibilities they have at hand.

**Discussion and Conclusions:** There is a good dialogue with the characteristics of Brazilian students and their history of representativeness and activism. It is a look to the horizon because it establishes a path where we can succeed preserving the inherent cultural and social characteristics around medical degree pathway. It also outlines the perspective of leadership in the face of different realities (truly represented by the diversity of participants) and empowers the capacity to understand student engagement as the first step towards building a tomorrow's educator

**Take-home Messages:** Education doesn't transform the world, it changes people. People transform the world.

## #3N Short Communications - Competency Based Education

### 3N1 (945)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 2.15, Level 2

### Reflections of Program Directors on a National Education Transition: Insights for Competency-Based Medical Education Implementation

#### AUTHOR(S):

- Bryce Bogie, McMaster University, Canada (Presenter)
- Kelly Dore, McMaster University, Canada
- Karen Saperson, McMaster University, Canada
- Karen Finlay, McMaster University, Canada
- Parveen Wasi, McMaster University, Canada

#### ABSTRACT

**Background:** Outcomes of national policy change (i.e. CBME or competency framework implementation) are felt by all levels of the organizational hierarchy. Within medical education, literature is sparse on how the levels of the educational systems interact to effect change. In the era of competency-based medical education (CBME), it is important for educators and researchers to understand the challenges faced by reflecting on past wide-scale policy changes.

**Summary of Work:** We developed an anonymous online survey to investigate program directors' (PDs) opinions of, and experiences with, accreditation and the implementation of the CanMEDS framework. The CanMEDS framework is an outcomes-based approach to CBME that requires residents to demonstrate mastery of specific competencies before progressing to independent practice. The survey was sent to all former Canadian specialty medicine PDs (N=684). Descriptive analysis was performed on the quantitative data; thematic analysis was performed on the qualitative comments; and mixed-methods analysis was completed to identify areas of convergence and/or divergence between the quantitative and qualitative results.

**Summary of Results:** A total of 265 (38.7%) former PDs responded to our survey. Quantitative analysis revealed that 52.8% of respondents did not feel involved in decision-making regarding policy changes, 45.1% of respondents did not feel prepared to assess the CanMEDS Roles, and PDs were divided on the reasonableness of accreditation documentation. Qualitative analyses produced four themes: Communication, Resources, Expectations of Outcomes, and Buy-In, as well as nine subthemes. Mixed-methods analysis noted a high level of convergence across content, with four areas of divergence. The analysis also highlighted areas of expansion where the qualitative and quantitative strands provided additive insights to each other.

**Discussion and Conclusions:** This national mixed-methods study provides insights on the nature and process of large-scale policy change from the perspective of those charged with operationalizing the change. The combined approach yielded robust insights applicable to international efforts of policy change, including CBME initiatives.

**Take-home Messages:** PDs reported unique challenges to policy change implementation. Future policy change initiatives in CBME should emphasize program-level considerations to promote the successful understanding and implementation of new CBME policies by PDs across all medical specialty programs.

## #3N Short Communications - Competency Based Education

### 3N2 (1539)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 2.15, Level 2

### Coordinating a nation-wide introduction of a new competency framework for the Swiss undergraduate medical curricula: development of a common implementation guide

#### AUTHOR(S):

- **Marc Sohrmann, University of Lausanne, Switzerland (Presenter)**
- Mathieu Nendaz, Unit of Development and Research in Medical Education, University of Geneva, Switzerland
- Raphael Bonvin, Medical Education Unit, University of Fribourg, Switzerland
- Christoph Berendonk, Institute for Medical Education, University of Bern, Switzerland

#### ABSTRACT

**Background:** In 2018, Switzerland introduced a new version of its nation-wide framework of reference for the undergraduate medical curriculum named PROFILES. It is based on the 7 CanMeds roles, 9 EPAs and 265 situations as starting points; but in contrast to previous editions it does not list diagnoses or disciplines. To accompany the implementation process the medical faculties created a joint, national working group.

**Summary of Work:** Delegates of the medical schools and the federal licensing exam met regularly over one year. The resulting implementation guide, based on a thorough review of the current literature, describes contextualized strategies to support the implementation of the different elements of PROFILES. This non-binding approach respects the autonomy of each Swiss medical school, allowing them to adapt the implementation process to their specific context and challenges.

**Summary of Results:** The PROFILES implementation guide covers four main chapters: *Curriculum organisation:* the transition from a content-oriented to a competency-based teaching program needs an integrated curriculum, active teaching formats and a longitudinal clinical exposure. *Assessment:* the introduction of EPAs along the CanMeds roles requires a 'program of assessment' combining different assessment strategies, rather than a collection of isolated assessment events. *Faculty development:* such a profound change can only be achieved if faculty members are trained and informed, and eventually adhere to the new educational orientations. *Strategies of implementation:* the last chapter emphasizes the importance of developing a change management approach to support a successful implementation of PROFILES.

**Discussion and Conclusions:** The framework of reference for the undergraduate medical curriculum in Switzerland has recently undergone an in-depth update. A collaborative work with delegates from all medical schools resulted in an implementation guide with strategies to address the challenging shift to a competency-oriented curriculum based on CanMeds and EPAs.

**Take-home Messages:** A nation-wide, collaborative approach to define strategies and conditions for the implementation of a new framework of reference has the potential to lead to a clearer appreciation of the challenges and an increased effort towards using common processes and tools to modify the current undergraduate medical curricula.



## #3N Short Communications - Competency Based Education

### 3N3 (1742)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 2.15, Level 2

### Development and Implementation of a Workplace-Based Assessment System to Inform Competency Decisions and Encourage Self-Regulated and Mastery Learning Behaviors in Post-Graduate Medical Education

#### AUTHOR(S):

- Daniel West, University of California, San Francisco, USA (Presenter)
- Duncan Henry, University of California, San Francisco, USA
- Ellen Laves, University of California, San Francisco, USA
- Margaret McNamara, University of California, San Francisco, USA

#### ABSTRACT

**Background:** Workplace-based assessments in Competency-Based Medical Education (CBME) usually are designed to inform high-stakes competency decisions but not encourage self-regulated (e.g. feedback seeking) and mastery learning (e.g. deliberate practice) behaviors. We sought to develop and test the feasibility of a workplace-based assessment system to fill this gap.

**Summary of Work:** As part of a larger program of assessment, we developed a workplace-based assessment system based on the American Board of Pediatrics Entrustable Professional Activities (EPAs) for General Pediatrics designed to provide frequent, brief assessments initiated by residents that provides high quality feedback to support deliberate practice and inform competency decisions. Assessment forms contained 3 domains: demonstration of key skills/behaviors; entrustment/supervision level; and free-text comments providing rationale for the entrustment level supervisors assigned and skills/behaviors that a resident would need to further develop to achieve higher levels of entrustment. After pilot testing and training, we implemented the program from July 2017 to Dec 2018. To assess implementation, we measured key process indicators, surveyed residents, and used a previously validated instrument to measure the extent to which a random sample of written comments (pre- and post- implementation) contained high-quality feedback (scored range, 0-7).

**Summary of Results:** We developed assessment forms for 12 of 17 EPAs. We implemented the program for 80 residents in 75% of our training environments. In the first year of implementation, the total number of assessments per resident varied by year of training: 1st year (median number [inter-quartile range]) (16.5 [16]); 2nd year 10 [6.5]; 3rd year 6.5 [3]. All residents (100%) initiated at least one assessment; 45% initiated an assessment 1-2 times per clinical rotation. Most residents found feedback useful (71%), applicable to their learning (62%), and informed deliberate practice (56%). Quality of written comments were markedly improved post-implementation (Pre = 3 [1] median score [inter-quartile range] vs Post = 6.5 [1];  $p < 0.00001$  [Mann Whitney U]).

**Discussion and Conclusions:** Preliminary evidence suggests that implementation of this program was feasible and provided higher quality feedback to better support deliberate practice. Further optimization is needed to increase frequency of feedback-seeking and goal-setting behaviors.

**Take-home Messages:** Implementing EPA-based assessments was feasible, acceptable, and associated with specific self-regulated and mastery learning behaviors.

## #3N Short Communications - Competency Based Education

### 3N4 (3107)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 2.15, Level 2

### The development of a roadmap for the implementation of competency-based postgraduate medical education: A qualitative study

#### AUTHOR(S):

- Tim Dubé, McGill University, Canada (Presenter)
- Carlos Gomez-Garibello, McGill University, Canada
- Maryam Wagner, McGill University, Canada
- Marco Zaccagnini, McGill University Health Centre, Canada
- Evelyn Constantin, McGill University, Canada
- Armand Aalamian, McGill University, Canada

#### ABSTRACT

**Background:** Postgraduate medical education in Canada is undergoing significant educational reform toward competency-based approaches. With increasingly more residency training programs transitioning to competency-based medical education (CBME), there is a need to communicate direction and progress to better inform stakeholders (e.g., program directors, learners, and educational and administrative leads) which steps should be taken when, and what is the ideal sequence of implementation processes. The purpose of our study was to gather data regarding the implementation of CBME to develop a roadmap, which included guidelines and strategies for ongoing and future implementation.

**Summary of Work:** We undertook a process evaluation of the implementation of CBME in two residency programs at a large urban university: Anesthesia and Otolaryngology. Through purposive convenience and snowball sampling, we conducted 17 interviews with multiple stakeholders including residents, department chairs, program directors, faculty, educationalists, and program administrators. We used inductive thematic analysis to interpret the data. We also employed a reflexive component throughout the research process to document our insights, reflections, and conversations regarding the implementation process.

**Summary of Results:** The participants' perspectives organized around seven key themes including: a) communication strategies, b) capacity building for faculty and residents, c) curriculum and assessment planning, d) administrative and logistical planning, e) change management, f) hidden curriculum, and g) continuous quality improvement. We will present findings related to each stakeholder group and those integrated across all stakeholders.

**Discussion and Conclusions:** The roadmap resulting from this research is based on two case studies with residency programs that were early adopters of CBME in the context of a large urban university in Canada. Our findings highlight important steps and processes related to implementing CBME in any residency training program including curriculum and assessment, faculty development and change management, and administration and logistics.

**Take-home Messages:** CBME implementation is an opportunity to advance practice with research. The roadmap resulting from this research might orient other residency programs preparing for, or transitioning to, CBME. We will share important lessons learned among programs in terms of differences with respect to program size, readiness for CBME implementation, and compliance with accreditation requirements.

## #3N Short Communications - Competency Based Education

### 3N5 (2629)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 2.15, Level 2

### Development of interprofessional education in paediatric cancer: a Nordic Delphi study to establish consensus on content and learning objectives

#### AUTHOR(S):

- Martha Krogh Topperzer, Department of Paediatrics and Adolescent Medicine, Rigshospitalet University of Copenhagen, Denmark (Presenter)
- Line Thellesen, Department of Gynaecology and Obstetrics, Herlev Hospital, Denmark
- Mette Weibel, Department of Paediatrics and Adolescent Medicine, Rigshospitalet University of Copenhagen, Denmark
- Hanne Bækgaard Larsen, Department of Paediatrics and Adolescent Medicine, Rigshospitalet University Of Copenhagen, Denmark
- Marianne Hoffmann, Department of Paediatrics and Adolescent Medicine, Rigshospitalet University Of Copenhagen, Denmark
- Jette Led Sørensen, Juliane Marie Center, Rigshospitalet, University of Copenhagen, Denmark

#### ABSTRACT

**Background:** Complex treatment and care of children and adolescents with cancer require collaboration between healthcare professionals with various skills. Authors of this abstracts conducted a scoping review and found that there is a lack of well-structured, interprofessional education in paediatric cancer that has undergone evaluation. Specific and measurable learning objectives are essential in education planning and evaluation. Learning objectives developed based on group consensus such as the Delphi methodology can increase the reliability and credibility of a new education program. The aim of this on-going study is to define learning objectives for interprofessional education in paediatric cancer based on a Nordic Delphi study.

**Summary of Work:** A three round Delphi survey was conducted using electronic questionnaires. The Delphi panellists were appointed by chief physicians and head nurses from paediatric cancer departments in 14 hospitals in Denmark, Sweden and Norway and consisted of one or more healthcare professionals from own department with an interest in education. In the first round (Dec 2018-Jan 2019) panellists were asked to describe competencies within 17 predefined subjects relevant when working in an interprofessional team in paediatric cancer. The panellists' answers were analysed with direct content analysis and learning objectives using Blooms taxonomy were developed. Panellists were encouraged to suggest new subjects. In the following two rounds the panellists will rate the relevance of the learning objectives as part of an interprofessional education in paediatric cancer.

**Summary of Results:** Twelve Nordic departments participate (85 %) with eleven nurses, ten physicians, five social workers, two physiotherapists, two educators and one teacher. The panellists' qualitative answers cover comments on knowledge, skills and attitudes to interprofessional treatment and care of children and adolescents with cancer.

**Discussion and Conclusions:** The Delphi study will result in a prioritized list of learning objectives for interprofessional education in paediatric cancer. Selected learning objectives will be tested at the paediatric cancer department in Copenhagen and could potentially be tested in all twelve participating departments.

**Take-home Messages:** The Delphi method is suitable to synthesize expert opinions and support decision making when no consensus exists in areas i.e. as interprofessional education in paediatric cancer.

## #3N Short Communications - Competency Based Education

### 3N6 (2761)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 2.15, Level 2

### First impressions - An evaluation 6 months in to the Outcome Based Education pilot in Basic Specialist Training for Paediatrics

#### AUTHOR(S):

- Aisling Smith, Royal College of Physicians of Ireland, Ireland (Presenter)
- Micheal A Boyle, RCPI and The Rotunda Hospital, Ireland

#### ABSTRACT

**Background:** The development of expertise in medicine in a fast changing workplace is a key focus of post graduate medical education in Ireland. The Royal College of Physicians of Ireland (RCPI) is moving curricula to an outcome based approach. A pilot curriculum for basic specialist training in paediatrics was developed. This was drafted after systematic review, a survey of trainers regarding the importance and frequency of tasks and hospital based focus groups. A new ePortfolio was designed. In July 2018 a pilot of 40 trainees, 33 trainers and 16 training sites was launched.

**Summary of Work:** After the first 6 month rotation we evaluated the impact that the changes in approach have had to clarity of requirements for trainees, feedback in the workplace and goal planning. Portfolio interactions were monitored and a short questionnaire was completed, follow up calls and semi structured interviews took place to identify learning from the pilot.

**Summary of Results:** During the 6 months 35/40 (87.5%) had completed a Directly Observed Procedure (DOPs) form with 195 separate DOPs recorded by this group. Trainers have signed off 88/195 (45%) of the submitted forms. 19/40 (47.5%) of trainees responded to the questionnaire. 63% of respondents agreed that they could 'easily identify opportunities for learning in [their] current post'. Over 80% agreed or strongly agreed that they developed new clinical and professional skills. Follow up calls took place with those missing documented requirements for this time period.

**Discussion and Conclusions:** Early data indicates that using OBE is an effective method of facilitating better workplace feedback and evaluation in post graduate training. These findings demonstrate a successful introduction to the workplace and it has been well received. More training of Trainers appears to be needed and support for Trainees in using the ePortfolio and recognising their training opportunities. Monitoring and evaluation of the pilot are key to implementing an effective and realistic programme of workplace learning.

**Take-home Messages:** The outcome based education pilot appears to facilitate self-directed learning and feedback,. Learning from the pilot can be applied to the methodology for reviewing other programmes.





## #3N Short Communications - Competency Based Education

3N7 (2997)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 2.15, Level 2

### A qualitative study of complex intervention for CBME across specialties in an Asian country

#### AUTHOR(S):

- Hsiao-chuan Lin, China Medical University Hospital, Taiwan (Presenter)
- Po-Chang Wu, China Medical University Hospital, Taiwan
- Te-Fa Chiu, China Medical University Hospital, Taiwan
- Chia-Der Lin, China Medical University Hospital, Taiwan
- Fremien Chihchen Chou, China Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Competency-based medical education (CBME), defined as training medical professionals to achieve medical practice in accordance with local needs, has become the mainstream of international medical education reform. Taiwan society of emergency medicine has successfully stepped on this reform trend with an approach of globalization and shared its implementation experience with other specialties in Taiwan. Through the brainstorming of experts from various medical societies, this study aimed to reveal the common strategies through analyzing the five-year action plan to implement CBME among specialties.

**Summary of Work:** This study enrolled medical educators from seven medical societies, including family medicine, emergency medicine, otolaryngology, obstetrics and gynecology, anesthesiology, internal medicine and pediatrics. We collected every specialty group's five-year action plan, the products of the in-depth brainstorming with troika consulting activity and the following group co-creation. Qualitative content analysis was applied to reveal the common strategies of implementing CBME.

**Summary of Results:** This study revealed common themes around three core concepts. First, on the development of the progressive framework of competencies: The participants agreed to set up working groups by the medical societies, incorporate into the accreditation, formulate a national CBME marketing strategy for buy-in and develop localized CBME training. Secondly, in the teaching and learning experience tailored to competency, participants thought that the voluntary participation of residents, the development of tailored clinical curriculum, faculty development with reward systems, and communication platforms were keys to success. Finally, in terms of programmatic assessments and decision of competencies progression, participants believed that hospital investment resources, technology-supported platforms, faculty development, and consistency with licensure were needed.

**Discussion and Conclusions:** This study shows that building consensus and national marketing strategies for buy-in, developing localized training system, establishing a nationally consistent assessment system, faculty development, promoting voluntary participation of residents and hospitals investing resources, and developing technology-supported tool will be the major strategies to facilitate CBME in Taiwan.

**Take-home Messages:** The aim of implementing CBME is to ensure patient safety and healthcare quality of global standard. However, this complex intervention of medical education should consider a series of sequential action plan with thoughtful local efforts.



## #30 Short Communications - Patient Safety

301 (2980)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 2.31, Level 2

### Setting high standards from the start: An experiential faculty orientation to introduce institutional expectations around communication and patient safety

#### AUTHOR(S):

- Kinga Elias, New York University School of Medicine, USA (Presenter)
- Mara McCrickard, New York University, USA
- Deborah Cooke, New York University School of Medicine, USA
- Katherine Hochman, New York University School of Medicine, USA
- Andrew Wallach, New York University School of Medicine, USA
- Sondra Zabar, New York University School of Medicine, USA

#### ABSTRACT

**Background:** Newly recruited clinicians have heterogeneous backgrounds and need an introduction to their new institution's patient communication expectations and safety culture. We describe an onboarding program designed to ensure that newly hired clinicians receive actionable, behaviorally-specific feedback from the patients' perspective to support the transition to a new work environment, enhance patient experience, and reduce the need to react to complaints once they have started.

**Summary of Work:** In 2-hours, participants completed three, 10-minute Objective Structured Clinical Exam cases designed to assess addressing a medical error, managing the patient's discharge goals of care, and responding to an impaired learner. During each encounter, participants interacted with Standardized Patients (SPs) or Standardized Learners (SLs) who used behaviorally-anchored checklists to evaluate communication and case-specific skills. Following each encounter, participants completed a self-assessment while the SPs/SLs completed a checklist that was shared with the learner. Participants also set individual learning goals to implement in their daily work, completed a program evaluation, engaged in a debrief, and received an institutional resource guide.

**Summary of Results:** 57 faculty representing 6 clinical sites participated across two years. Faculty was heterogeneous with respect to general and case-specific performance. For example, 86% adequately elicited the SPs/SLs story during the discharge case compared to 66% in the other two cases, 77% addressed pain management, while 44% did not discuss medication side effects. Participants have universally found this onboarding to be useful/relevant; 98% agreed/strongly agreed that the program was an effective way to reinforce good habits in communication, 96% felt it enhanced confidence in their ability to communicate effectively, and 96% felt it reinforced the institutional safety culture. All 56 participants who completed the evaluation agreed/strongly agreed that the event was engaging and well-designed, and 93% felt it was a good use of their time and would recommend the program.

**Discussion and Conclusions:** Traditional orientations are not well recalled and do not address knowledge and skills in real-time. Participants were enthusiastic about our introduction to the institution's expectations.

**Take-home Messages:** This program sets high standards and introduces a new model for skills-based onboarding, which may lead to improved patient outcomes.

## #30 Short Communications - Patient Safety

302 (1208)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 2.31, Level 2

### Medical error in power different situation - how would medical students respond and could we train them to face it?

#### AUTHOR(S):

- Jen-Chieh Wu, Taipei Medical University Hospital, Taiwan (Presenter)
- Che-Wei Lin, Taipei Medical University, Taiwan
- Hui-Wen Chen, Taipei Medical University, Taiwan
- Yi-Chun Chen, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Medical error, a critical global issue, is associated with major adverse health outcomes or even death. As part of the medical team, medical students are expected to speak up for medical error in their curriculum but it may be difficult for students if there exists hierarchy difference. The goal of this study is to understand students' speaking-up behavior and determine the efficacy of an integrated simulation training.

**Summary of Work:** This study enrolled 154 sixth-year undergraduate medical students of Taipei medical university. An integrated simulation course consisted of two scenarios with a minor and a major medical error initiated by a standardized supervising doctor was developed. All students passed the knowledge test before entering simulation scenario to ensure participants' knowledge readiness. Each student encountered a first medical error scenario, followed by a faculty-lead debriefing for exploring their thinking process and developing effective response strategy, and then engaged in second medical error scenario. Participants were divided into two groups where group one (n=75) started with a minor medical error scenario and group two (n=79) beginning with a major medical error scenario.

**Summary of Results:** 76/154 (49%) students spoke up when they encountered their first medical error scenario. Students had significant lower rate of speaking-up when encountering minor medical error compared to those started with major medical error (group 1, 21/75, 28% vs. 55/79, group 2, 69.6%,  $P < 0.001$ ). After debriefing session, all students in both groups spoke up in both minor and major medical error scenario and there were significant increased rate of speaking-up behavior compared to their baseline responses (MD, 0.5, t-value 12.288,  $p < .001$ ).

**Discussion and Conclusions:** Our study shows that even students has the adequate professional knowledge to notice a medical error occurring, half of them may not speak-up about medical error when facing their supervising physician. Students tend to speak up more frequently in major event but using some inadequate language behavior during the scenario, indicating further communication training is warranted for future work. A structured simulation training incorporated with faculty-lead debriefing would be a solution to improve students' speaking up behavior.

**Take-home Messages:** Simulation training is effective in improving medical students' confidence and competence to respond to medical error.

## #30 Short Communications - Patient Safety

303 (1724)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 2.31, Level 2

### A Longitudinal Simulation to Teach Safety Tools and Behaviors in a US-based Postgraduate Training Program

#### AUTHOR(S):

- John Delzell, Northeast Georgia Health System, USA (Presenter)
- Gretchen Holmes, Northeast Georgia Health System, USA
- Zach Dunkerly, Northeast Georgia Health System, USA
- Donna Brown, Northeast Georgia Health System, USA
- Janeane Walker, Northeast Georgia Health System, USA
- Michael Appel, Northeast Georgia Health System, USA

#### ABSTRACT

**Background:** Health care delivery has evolved significantly since the 2001 Institute of Medicine report Crossing the Quality Chasm: A New Health System for the 21st Century, but despite substantial changes quality and safety remain problematic in many health systems. Graduate medical education has not adapted to a changing landscape, often leaving graduates insufficiently prepared for today's practice environment and expectations. Postgraduate training is not included in many institutional efforts to address quality and safety. Few postgraduate programs provide preparation for leadership roles in quality and safety. The overall goal of this project is to create resident leaders in patient safety.

**Summary of Work:** We developed a six-month longitudinal error prevention simulation. Stage 1: residents participate in a case-based, interactive training session to teach 12 institutional Safety Tools and Behaviors (ie: Escalate Concerns). This session is two hours in length and is taught by a physician safety champion. Residents are given pre- and post- testing of knowledge acquisition. Stage 2: there is a Standardized Patient case in which the resident makes a medical error and must report the event. The scenario includes informing a family member of the error. Stage 3: residents have an interactive role-play session to learn skills for giving bad news. Stage 4: residents participate in a root cause analysis reviewing the (fake) error that they had made. Stage 5: in the final stage, there is self-reflection on errors, group discussion, and debriefing session.

**Summary of Results:** This project is a multi-year study, with preliminary data. Research question: do residents participating in a case-based learning activity demonstrate use of safety tools and retention of knowledge of those tools. We will present demographic and academic performance data of our resident physicians from Post-graduate Training year 1.

**Discussion and Conclusions:** Organizations seek safety champions yet struggle to find physicians with the necessary expertise. The overall goal of this project is to create resident leaders in the areas of safety and quality.

**Take-home Messages:** Post graduate trainees can be taught institutional Safety Behaviors The simulation environment is a safe place for residents to learn and practice safety tools.

## #30 Short Communications - Patient Safety

304 (3359)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 2.31, Level 2

### Influence of observing errors and receiving feedback on performance

#### AUTHOR(S):

- Portia Kalun, McMaster University, Canada (Presenter)
- Jennifer Zering, McMaster University, Canada
- Ranil Sonnadara, McMaster University, Canada

#### ABSTRACT

**Background:** Competency-based curricula emphasize observation and feedback. This creates an opportunity to explore how individuals learn through observation, and how feedback on an observed performance influences learning. We explored the value of observing errors, and how receiving feedback on the model's performance (MP) influences the performance of an observer.

**Summary of Work:** Participants watched a model build a LEGO structure, and then replicated the structure. Next, participants either watched a performance with no errors, a few errors, or many errors. Half of the participants in each group were provided with feedback on the MP; all participants were then asked to replicate the correct structure. Each participant re-watched the performance, received feedback on the MP if they had previously, and made a third attempt to replicate the structure. Data were analyzed using a 3x6 mixed-measures ANOVA, with attempt as the within-subjects factor and group as the between-subjects factor.

**Summary of Results:** Performance on the LEGO structure differed by attempt across all of the groups [ $F(2,224)=42.27, p<0.001$ ]. Participants who observed the error-free performance made significantly fewer errors over each attempt, while participants who received feedback on the error-free performance did not. The two groups who observed the performance with a few errors made significantly fewer errors over time. Participants who simply observed the performance with many errors did not make fewer errors over time. Interestingly, participants who received feedback on the performance with many errors made significantly fewer errors overall.

**Discussion and Conclusions:** Performance on the task depended on the number of errors in the MP, and whether observers received feedback on the MP or not. When observing an error-free performance, observers did not benefit from receiving feedback on the MP. However, when observing a performance with a few or many errors, feedback was helpful.

**Take-home Messages:** This study emphasizes the importance of feedback in skill learning for not only the trainee practicing the skill, but also for trainees who are observing a performance containing errors. Our results also suggest that while an error-free performance does provide a good model for novices, receiving feedback on that performance may be redundant. Future studies will explore the influence of observing errors for intermediate learners as well.

## #30 Short Communications - Patient Safety

305 (1207)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 2.31, Level 2

### The Prescribing Safety Assessment (PSA) - Improving Confidence in Prescribing. An Assessment 'Pill' which is worth swallowing

#### AUTHOR(S):

- Matthew Gittus, Health Education England, UK (Presenter)
- Clare van Hamel, United Kingdom Foundation Programme Office, UK
- Simon Maxwell, UKPSA, UK

#### ABSTRACT

**Background:** Prescribing is a significant part of a foundation doctors' workload. It is a complex task that can be associated with a high risk. Most prescribing is undertaken by foundation doctors, they are also associated with the highest number of prescribing errors (Ryan et al., 2014). The EQUIP study showed that 9% of hospital prescriptions contained errors (GMC, 2009). Furthermore, other research has shown that prescribing is one of the areas that foundation doctors find most difficult (GMC, 2014). The Prescribing Safety Assessment (PSA) was introduced in 2016 to allow undergraduate medical students and foundation doctors to demonstrate their competencies in prescribing. The introduction was resisted by some students, trainees and trainers concerned about increasing the assessment burden.

**Summary of Work:** The annual induction survey was open to all newly appointed F1 doctors with 962 responses received. They were asked whether they had taken the PSA and their level of confidence prescribing different types of common medications on a Likert scale. We examined the correlation between undertaking the PSA and confidence in prescribing different common medications.

**Summary of Results:** Overall, 93.3% of F1s had completed and passed the PSA at the time of the survey. An increased confidence prescribing the different medication groups was reported by F1 doctors who had undertaken the PSA compared to those who had not. The difference was statistically significant for most medication groups except anti-coagulants, IV fluids and oral anti-diabetics.

**Discussion and Conclusions:** The results of the induction survey have demonstrated an increased confidence in prescribing after passing the PSA. This may be explained through increased practice and knowledge in preparation for an assessment. Additionally, successful completion of the PSA could reassure F1 doctors. Further research may ascertain whether increased confidence is associated with fewer prescribing errors.

**Take-home Messages:** F1 doctors undertaking the PSA report increased confidence in their prescribing ability for common medications.

Ryan, C. et al. 2014. Prevalence and causes of prescribing errors: PROTECT study. Public Library of Science. 9(1).  
GMC. 2009. An in-depth investigation into causes of prescribing errors by foundation trainees in relation to their medical education: EQUIP study.  
GMC. 2014. The state of medical education and practice in the UK 2014.



## #30 Short Communications - Patient Safety

306 (2010)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 2.31, Level 2

### Japanese medical students' knowledge of diagnostic errors and beneficial learning effects from workshop-style education

#### AUTHOR(S):

- Yu Yamamoto, Jichi Medical University School of Medicine, Japan (Presenter)
- Shuji Hatakeyama, Jichi Medical University School of Medicine, Japan
- Masami Matsumura, Jichi Medical University School of Medicine, Japan

#### ABSTRACT

**Background:** Acquisition of knowledge relating to diagnostic errors, methods to reflect on such errors, and error factor analysis are all important if future diagnostic errors are to be prevented. However, medical students have few opportunities to learn these skills during undergraduate medical education.

**Summary of Work:** We provided a workshop for Japanese medical students to learn about diagnostic errors and error factor analysis methods used for reflecting on errors. The first half of the workshop comprised a lecture on cognitive bias and diagnostic errors, while the second half consisted of group work to analyze factors relating to cases of diagnostic errors. Knowledge about diagnostic errors was evaluated using a Diagnostic Error Knowledge Assessment Test (D-KAT) consisting of a 13-item multiple-choice questionnaire, administered before and after the workshop. We compared the scores with those of Japanese postgraduate year two (PGY-2) resident physicians from a previous study.

**Summary of Results:** A total of 32 medical students participated in the workshop (14 pre-clinical clerkship and 18 in clinical clerkship). The mean ( $\pm$  SD) D-KAT scores among medical students before the workshop were similar to those among Japanese PGY-2 residents ( $6.2 \pm 2.8$  vs.  $6.2 \pm 1.6$ ). The score tended to be higher in the clinical clerkship group compared with the pre-clinical clerkship group, but this was not significant ( $5.7 \pm 2.1$  vs.  $6.6 \pm 3.2$ ;  $p = 0.14$ ). However, participants' scores of post-workshop were significantly higher than those of pre-workshop ( $6.2 \pm 2.8$  vs.  $8.4 \pm 1.5$ ;  $p < 0.01$ ).

**Discussion and Conclusions:** It may be difficult to notice the underlying factors of diagnostic errors based on clinical experience alone, as reflected by the similar D-KAT scores seen for both Japanese medical students and residents. Medical students were able to effectively learn about diagnostic errors by analyzing the underlying factors of diagnostic error cases using the knowledge they gained during the lecture.

**Take-home Messages:** Learning about diagnostic errors, and methods for reflecting on them, during undergraduate medical education can increase awareness of diagnostic error factors. This can contribute to the avoidance of diagnostic errors in future clinical settings.

## #3P Short Communications - Surgery 1

### 3P1 (2495)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room L1, Level 1

### Exploring female surgeon identity constructions: A qualitative study with female surgeons, their colleagues and patients

#### AUTHOR(S):

- Gozie Offiah, RCSI, Ireland (Presenter)
- Stuart Cable, School of Health and Social Care, Edinburgh Napier University, Scotland
- Charlotte Rees, Monash Centre for Scholarship in Health Education (MCSHE), Monash University, Australia
- Susie Schofield, Centre for Medical Education, University of Dundee, Scotland

#### ABSTRACT

**Background:** While some countries (e.g. UK) have seen an increase in female surgeons and consultant surgeons over the last decade, others (e.g. Ireland) have seen figures remain static. Worldwide, the numbers of women represented in surgery at consultant level remain low compared to other specialities. While research has shown challenges and barriers for women in surgery, this current research explores the perceptions of female surgeons, as well as the colleagues and patients of female surgeons, on the issue of gender in surgery. Indeed, the current work aims to provide multiple views on female surgeon identity constructions.

**Summary of Work:** A qualitative research approach drawing on biographic narrative interviewing was used to provide a comprehensive picture of the multiplicity of issues existing for female surgeons in two countries (UK and Ireland). This approach was employed as it emphasises the socially constructed nature of reality and helps provide a rich and complex understanding of women's issues. We explored multiple stakeholders' perspectives around gender issues in surgery. Our sample included 27 female surgeons, 10 male and 8 female colleagues (e.g. surgeons, nurses, anaesthetists) and 5 male and 2 female patients. Thematic framework analysis was used to identify initial key themes for coding the data including identity constructions.

**Summary of Results:** The overarching themes identified across all stakeholder groups were of surgical culture, career choices, career interruptions and identity. Noting the prominence of identity talk in participants' narratives, we explored this theme further drawing on intersectionality theory, exploring female surgeons' intersecting personal (e.g. ethnicity, motherhood) and professional identities (e.g. doctor and female surgeon) and how those intersections interplayed with their surgical careers.

**Discussion and Conclusions:** While others have argued that it is challenging to be both a successful woman and a successful surgeon, novel findings from our study highlight how participants narrate intersecting personal and professional identities for female surgeons, emphasising that a balance between 'successful woman' and 'successful surgeon' can be achieved.

**Take-home Messages:** While the processes of cultivating professional identity in female surgeons is complex as it is interlaced with many personal commitments, it is possible to achieve the balance.

## #3P Short Communications - Surgery 1

### 3P2 (586)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room L1, Level 1

### Heart of a lion, hands of a lady: A literature review on gender-based discrimination in General Surgical specialist training

#### AUTHOR(S):

- Sunder Balasubramaniam, Tan Tock Seng Hospital, Singapore (Presenter)
- Marc Ong Wei Jie, Khoo Teck Puat Hospital, Singapore
- Terence Huey Cheong Wei, Tan Tock Seng Hospital, Singapore
- Kaushal Sanghvi Amitbhai, Tan Tock Seng Hospital, Singapore
- Sarah Lu Qing Hui, Tan Tock Seng Hospital, Singapore

#### ABSTRACT

**Background:** Previous studies have shown that female surgeons face gender-based discrimination at work. This affects their choice of specialty, satisfaction at work and increases the likelihood them giving up training prior to completion. Given the increasing number of female trainees in our programme, we aim to perform a study that is currently awaiting Ethics Board approval. The results of the literature review are presented here.

**Summary of Work:** Method: A structured literature search was performed on medical, educational and social science databases. The studies were on surgeons and trainees but not restricted to specific specialties. Returned abstracts were screened for relevance, and full text of selected articles were obtained. References in these studies were screened as well.

**Summary of Results:** Findings are organised into common themes encountered: 1. Entry into specialist training: a. Proportionally less female senior professors in surgery are seen despite near parity in medical school; b. Lack of role models was a barrier to aspiring female trainees. 2. Experience during training: a. More females reported being treated differently due to their gender (54% vs 16% in one study); b. This difference was more marked amongst surgeons compared to general medical school faculty. c. Females reported concerns over having children due to demands from work - this was rarely an issue for male surgeons. d. A 'leaky pipeline' thus develops, where progressively more females drop out at each stage of the journey from medical student to full professor. e. Female residents were more likely to have thoughts of quitting training. 3. In the workplace: a. Patients did not show an overt preference for either gender, although they demonstrated preferences for specific characteristics that are associated with gender for different types of surgery; b. Objective evidence of gender-based differences exist, with women receiving lower pay and delays in promotion despite being of equal ability.

**Discussion and Conclusions:** Conclusion: Gender-based discrimination remains a problem in surgical training today. Addressing these issues will produce better surgeons (of both genders) who have delicate hands and leonine hearts, among other virtues.

**Take-home Messages:** Gender-based discrimination is alive in surgery and exacts a heavy toll on female trainees and surgeons.

## #3P Short Communications - Surgery 1

### 3P3 (2869)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room L1, Level 1

### Busy surgeons in the mirror - Does it help to reflect? Qualitative analysis of surgical trainees on reflective writing

#### AUTHOR(S):

- Qiantai Hong, National Healthcare Group, Singapore (Presenter)
- Sanghvi Kaushal, National Healthcare Group, Singapore
- Cheong Wei Huey, National Healthcare Group, Singapore
- Sarah Lu, National Healthcare Group, Singapore

#### ABSTRACT

**Background:** Reflection is a metacognitive process that allows for individuals to analyse and understand situations so that future actions can be informed by this process. However, the time and space required for proper reflection process can often be scarce in General Surgery training; and stopping to think often runs contrary to the stereotypical image of a confident and assured surgeon. As part of an evolving curriculum in residency training, compulsory written reflection every 6 months with subsequent individualised discussion with the programme director was introduced 3 years ago and we were curious to assess its progress.

**Summary of Work:** We performed a qualitative analysis on current and ex-trainees within our general surgery residency training programme to assess their feedback on the role of written reflection during their training.

**Summary of Results:** 20% of surgical trainees found reflective writing to be unhelpful in their development as surgeons. For the 80% that did, the reasons were generally because they feel it helps to consolidate knowledge and clinical algorithm when they next encounter similar situations, allows exploration of individual blind spots and weaknesses, as well draw on encouragement from milestones. Approximately 50% found the interval to be too frequent for comfort or just about right. The general themes encountered included that it takes too much time to physically write a reflection, and that people often prefer alternative methods and timing for reflection. Enforced reflective writing also comes across as a chore to some. One third of the trainees reported negative emotions during reflective writing, with the most common feeling being regret. About half of the participants reported mixed feelings, and only a small proportion of the group came away feeling positive.

**Take-home Messages:** Reflection as a process is appreciated by surgical trainees. Among the many ways of performing reflections, reflective writing is not a surgical trainees first choice. Reflections are best done with designated mentor in private, and there is a need to look out for the trainees emotional well-being following a reflection session.

## #3P Short Communications - Surgery 1

### 3P4 (2765)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room L1, Level 1

### Does the patient make the difference? Influence of simulated patients versus real patient on students' empathic behavior in undergraduate medical training in surgery

#### AUTHOR(S):

- Yannic Koch, Department of trauma-, hand- and reconstructive surgery, University hospital Frankfurt, Germany (Presenter)
- Jasmina Sterz, Department of trauma-, hand- and reconstructive surgery, University hospital Frankfurt, Germany
- Maria-Christina Stefanescu, Department of pediatric surgery and pediatric urology, University hospital Frankfurt, Germany
- Aleksandra Germanyuk, Department of trauma-, hand- and reconstructive surgery, University hospital Frankfurt, Germany
- Miriam Rüsseler, Department of trauma-, hand- and reconstructive surgery, University hospital Frankfurt, Germany

#### ABSTRACT

**Background:** Empathic behavior is a key factor related to therapeutic outcome in the physician-patient relationship. Studies affirmed that empathic behavior can be acquired. One way to teach empathic behavior in the context of medical education is the use of simulated patients. At the medical faculty of the Goethe University in Frankfurt, simulated patients have so far mainly been used in examinations and infrequent in teaching sessions. The present study investigates, if the use of simulated patients influences the empathic behavior of undergraduate medical students. Furthermore, it analyses the effect of whether the students talk to a real or a simulated patient.

**Summary of Work:** The study design was prospective. Undergraduate medical students were randomized into 3 groups. All students had the same theoretical input regarding communication in surgery, in particular regarding taking a patient's history and getting informed consent. Followed by practical training. Here, the first group of students knew that they were talking to a simulated patient, the second group talked to a simulated patient, but assumed to speak with real patients and the third group talked to real patients. The patients rated the empathic behavior using a standardized questionnaire.

**Summary of Results:** 146 students participated in this study (group 1: 49; group 2: 44; group 3: 53). Results of group 1 and 2 differed significantly, as well as the results of group 1 and 3. There were no significant differences between group 2 and 3. In this connection, the simulation patients rated those studies that spoke to a real patient or believed they were doing so significantly worse.

**Discussion and Conclusions:** Regarding the acquisition of competence, it seems necessary, that students speak with real patients during their studies on a regular basis and need to get feedback by these patients. To assess the empathic behavior, the use of simulated patients seems reasonable, as long as students expect to talk to real patients. Furthermore, it seems necessary to assess the empathic behavior while talking to real patients during medical examinations.

**Take-home Messages:** Students seem to behave less empathetic when they expect to talk to a real patient. Regarding the acquisition of competence, it seems necessary, that students speak with real patients during their studies on a regular basis and need to get feedback by the patients. Furthermore it seems necessary to assess the empathic behaviour while talking to real patients in medical examinations.



## #3P Short Communications - Surgery 1

### 3P5 (3159)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room L1, Level 1

### What Makes Surgical Boot Camps Effective? Using a Mixed Methods Approach to Bridge the Gap Between Medical School and Residency

#### AUTHOR(S):

- **Natalie Wagner, McMaster University, Canada (Presenter)**
- Nalin Amin, McMaster University, Canada
- Stephen Kelly, McMaster University, Canada
- Ranil R Sonnadara, McMaster University, Canada

#### ABSTRACT

**Background:** Many training programs are now implementing a surgical skills course, or 'boot camp' at the onset of residency. While research suggests boot camps (BCs) can improve some technical skills for a short period of time (Sonnadara et al., 2012), those skills tend to vary between studies, and many studies omit critical information on why that may be the case. This study used a convergent parallel mixed methods (CPMM) approach to examine the efficacy of a surgical BC for incoming residents.

**Summary of Work:** A two-week simulation-based BC was developed and implemented in July 2016. OSCE performance of residents who completed traditional training was compared with residents that completed the BC, at one- and two-years into training. Surveys, focus groups, and interviews were also conducted with a variety of stakeholders to explore the perceived utility of the BC. Qualitative data was analyzed for themes and integrated with the OSCE results using a CPMM approach.

**Summary of Results:** OSCE data suggested that at one- and two-years into training the BC cohort performed significantly better than the traditional training cohort; however, there were significant group by station interactions. When triangulated, qualitative data suggested that skills in which no differences were observed between cohorts were those that did not adhere to the intended plan, or 'may just take time to grow experience'. Participants also reported that OSCEs fail to capture factors that are essential to the usefulness of a BC (e.g. explaining hospital logistics), and that testing some of the skills in the OSCE environment 'felt contrived'.

**Discussion and Conclusions:** Our data suggest incorporating a BC at the onset of residency can improve residents' confidence, technical and nontechnical skills, and ease the transition into residency. Adherence to sound pedagogical principles such as constructive alignment and deliberate practice is critical. Additionally, OSCEs may not always be the best way to measure BC effectiveness.

**Take-home Messages:** Using a CPMM approach can offer valuable insights into curriculum effectiveness. The results from this study will provide educators with useful information on how to create and evaluate BC programs, ensuring that time spent away from the clinical environment is being used as efficiently as possible.

## #3P Short Communications - Surgery 1

### 3P6 (3143)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room L1, Level 1

### Development and validation of an instrument to evaluate competences in Pediatric Surgery Residency based on milestone project

#### AUTHOR(S):

- **Izabel Meister Coelho, Faculdades Pequeno Príncipe, Brazil (Presenter)**
- Giovana Camargo de Almeida, Faculdades Pequeno Príncipe, Brazil
- Elaine Rossi Ribeiro, Faculdades Pequeno Príncipe, Brazil
- Adriana Buechner de Freitas Brandão, Faculdades Pequeno Príncipe, Brazil
- Elisangela Mattos e Silva, Faculdades Pequeno Príncipe, Brazil

#### ABSTRACT

**Background:** The competences required for training the pediatric surgeon are the acquisition of knowledge of the specialty, the improvement of clinical skills and surgical techniques in pediatric surgery and the refinement of medical attitudes. For an adequate training during residence in pediatric surgery, the training institution must constantly evaluate and monitor the acquisition of competences and for this it needs a specific instrument as an evaluation tool.

**Summary of Work:** Develop an evaluation instrument based on 'Milestone Projects' with the competences determined by the Brazilian Association of Pediatric Surgery, for use in the Pediatric Surgery Residency Programs. Method: Methodological research developed in three stages: Development of the initial instrument, its qualification by a focal group of experts of the specialty and evaluation of the instrument by Brazilian pediatric surgeons; with the objective of validating and quantifying the acceptance of the instrument as to reliability, applicability, reproducibility, relevance of the topics addressed, adequacy from the technical point of view and from a theoretical point of view.

**Summary of Results:** The initial instrument was created with 4 general competences and 13 specific sub-competences, each one with 5 milestones to be achieved. Four experts performed the initial qualification, resulting in 44 adaptations, finalizing the instrument with 4 general competences subdivided into 10 sub-competences, each one with 5 levels of assessment. In the next phase the instrument was submitted to the evaluation of the Brazilian Pediatric Surgery Group and the Brazilian Pediatric Urology Group. There were 40 expert responses, with a total of 2394 responses from the 50 assessment items. The instrument had general acceptance of 91.2%, being considered applicable (96.7%), reproducible (93.3), with relevance of the topics covered (96%), technically adequate (93.6%), (93.3%), reliable (85.5%) and reliable (79.8%).

**Discussion and Conclusions:** An auxiliary instrument was developed to evaluate the acquisition of competence milestones during residence in pediatric surgery according to the 'Milestone Projects'. This instrument was validated by pediatric surgeons and considered applicable, reproducible, relevant, adequate from a technical point of view, adequate from a theoretical, reliable and reliable point of view.

**Take-home Messages:** Development of validated instruments to evaluated competences in Residency, with special care to local characteristics, allow best results in health outcome.

## #3Q Short Communications - Simulated Patients

### 3Q1 (1211)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.15, Level 0

### Can health professional students become effective simulated patients? Student reflections from an intensive for-credit training course

#### AUTHOR(S):

- Gary D. Rogers, Griffith University, Queensland, Australia (Presenter)
- Nicole Evans, Griffith University, Queensland, Australia
- Pit Cheng Chan, Griffith University, Queensland, Australia

#### ABSTRACT

**Background:** Human patient simulation is a complex educational process with cognitive, psychomotor and affective dimensions. Untrained health students have been considered a poor substitute for professional simulated patients (SPs) because of their perceived inability to set aside professional understandings in order to play patients or clients authentically. Little is known about the affective development of SPs-in-training, especially in relation to their prior professional backgrounds.

**Summary of Work:** Participants in a for-credit SP training course came from a variety of backgrounds, including health professional and theatre- or screen-performance-based training and experience. They journalled daily about the emotional impact of large- and small-group practical learning experiences. Their accounts were analysed utilising an established phenomenologically-informed hermeneutic method focused on learning in the affective domain, taking account of their professional backgrounds.

**Summary of Results:** There was evidence of high-level affective learning in most journals. Learners from health backgrounds made sense of their experiences in particular ways and appeared to gain a deeper appreciation for the importance of human capabilities in their own health practice, as well as an understanding of SP methodology and the performance techniques that optimise its effectiveness. Students from performance backgrounds appeared to benefit from working with health-background students in relation to their awareness of the human dimensions of health care and their appreciation of the value of SP-based learning activities for health professionals.

**Discussion and Conclusions:** Our study suggests that, with appropriate training, both health-background and performance-background learners can become effective SPs. There may be added value in training the two groups together.

**Take-home Messages:** With appropriate training, both health-background and performance-background learners can become effective SPs though each group may have distinctive learning needs. Educating potential SPs from both backgrounds together affords opportunities for each to learn from the other.

## #3Q Short Communications - Simulated Patients

### 3Q2 (1148)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.15, Level 0

### Augmented assessment: a proof-of-concept experience on the use of auscultation simulators in the context of objective structured clinical examinations

#### AUTHOR(S):

- **Maria Ferreira, Faculdade De Medicina Da Universidade Do Porto, Portugal (Presenter)**
- Pedro Grilo Diogo, Faculty of Medicine - University of Porto, Portugal
- Ana Rita Ramalho, Faculty of Medicine - University of Porto, Portugal
- Joao Sergio Neves, Faculty of Medicine - University of Porto, Portugal
- Rui Coelho, Faculty of Medicine - University of Porto, Portugal

#### ABSTRACT

**Background:** Auscultation simulators (AuS), using equipment such as digital stethoscopes (DS), show new possibilities for teaching auscultation skills given their improved acoustic quality and ability to record and replay sounds. The role of AuS on skills assessment is less explored. We describe a pilot experience on a mock-OSCE where abnormal heart and lung sounds were integrated in standardized patient (SP) clinical cases.

**Summary of Work:** A mock-OSCE was created where two stations had SPs portraying typical heart failure and pneumonia presentations. Volunteer fourth-year and fifth-year medical students collected clinical histories and performed heart and lung auscultation.

**Summary of Results:** A MedSounds AuS was used, with previously recorded normal and abnormal heart and lung sounds on all regular auscultation foci, which were embedded in each SP case. The abnormal sounds included a holosystolic murmur on tricuspid and mitral foci (heart failure case) and right basal inspiratory crackles (pneumonia case). Students used a 3M™ Littmann® to perform cardiac and lung auscultation on both SPs. A controller was in the exam room together with the student, SP and assessor, replaying the recorded sounds directly into the DS when students listened to each auscultation foci. The controller used an App running offline on an Android tablet, which included a realistic interface displaying all regular heart and lung auscultation foci.

**Discussion and Conclusions:** This proof-of-concept experience shows how AuS can be integrated on a high-stakes exam format. Embedding abnormal auscultation sounds on OSCE clinical cases can increase the psychological fidelity of the SP clinical simulation for students. AuS add new possibilities for assessing auscultation skills as well as the interpretation of sounds in their clinical context. The use of offline platforms avoid problems with poor internet signal, while tablets with user-friendly interfaces make the control dynamics easy for lay users. The use of a controller is not necessary as assessors can replay the heart and lung sounds with simple training.

**Take-home Messages:** AuS are a promising technology in the context of assessment, increasing the authenticity of SP clinical cases and raising new assessment possibilities such as the interpretation of auscultation findings in a clinical context.

## #3Q Short Communications - Simulated Patients

3Q3 (462)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.15, Level 0

### Making the Subjective, Objective?: Examining standardized patients' decision-making and assessment of medical trainees' communication skills

#### AUTHOR(S):

- Laura Hirshfield, University of Illinois at Chicago, College of Medicine, USA (Presenter)
- Katharine McCabe, University of Illinois at Chicago, USA
- Kelly Underman, Drexel University, USA

#### ABSTRACT

**Background:** Standardized and simulated patients (SPs) are frequently used to teach medical communication. One key aspect of SPs' work is the use of checklists to provide a standardized format for evaluating medical trainees' performances. While numerous studies have been conducted to validate the use of SPs, little is known about how SPs use checklists and make decisions about how to rate trainees' performances. This is of particular interest given that certain aspects of medical communication, such as displaying empathy, rely upon subjective feelings experienced by the SPs. In this study, we ask, how do SPs maintain standardized forms of evaluation and assessment?

**Summary of Work:** This study draws on data from qualitative interviews with 27 SPs employed at a large, Midwestern medical school in the US. Interviews focused on the process of assessing and providing feedback about students' communication, interpersonal skill, and emotional expression or empathy. The research team analyzed the data using a constructivist, inductive approach.

**Summary of Results:** Though our participants highlighted the rigorous training they received and the standardization of the checklists they used, they also acknowledged the subjective nature of their work. Three main themes emerged. First, interactional dynamics which cannot be named. Second, the interjection of gut feelings in the assessment of interactions. Finally, how personal reactions and feelings must be tabled to fairly assess students.

**Discussion and Conclusions:** This study is one of the first to center SPs' voices and experiences in the medical education process. Our findings highlight the strategies and techniques utilized by SPs as they worked to transform their subjective assessments into objective evaluations in line with the values of standardized medical science and training. We argue that SPs perform underexplored work in order to create or produce standardization in these types of educational encounters.

**Take-home Messages:** Despite their 'standardization', SPs rely on a combination of unnamed interactional dynamics and gut feelings to assess students. At the same time, they work hard to set aside their own emotions in order to be fair.



## #3Q Short Communications - Simulated Patients

### 3Q4 (3266)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.15, Level 0

### What aspects need to be improved in simulated patient training for a formative OSCE?

#### AUTHOR(S):

- Giselle Myer, Universidad Católica Del Norte, Chile (Presenter)
- Claudia Behrens, Universidad Católica Del Norte, Chile

#### ABSTRACT

**Background:** For more than one decade the Universidad Católica del Norte has used professional actors as simulated patients (SP) in OSCEs to evaluate students' communication and clinical skills. It is well known that the SP's patient representation in clinical simulation is essential so that students can demonstrate their clinical abilities. This study's purpose is to evaluate aspects of the SP's performance that need to be improved during the training for a formative OSCE.

**Summary of Work:** A total of fifty-two students underwent during their third year of medical school a formative OSCE in Internal Medicine. During this OSCE, each student was asked to complete the Maastricht Assessment of Simulated Patients (MaSP) at the end of their last clinical case (station). This survey consisted of 12 items distributed in a Likert-type scale.

**Summary of Results:** The data gathered from these fifty-two surveys was analyzed using distribution frequency. Students rated as positive in over 70% the following factors: SP authenticity, maintaining the role as a patient, naturality in answering questions, appearance fitting the role, friendliness and listening ability. However, the items related to the SP clearly representing a role during the evaluation, withholding information and testing the student were rated as positive in 51%. The SPs obtained a mean of 8,8 out of 10 as overall mark during this OSCE.

**Discussion and Conclusions:** Simulated patients perform well in an OSCE setting and are considered by the students to reflect a true patient, but we need to train them better in their ability to feel the role more than to play it, and not give the students the sensation that information is being withheld from them or that they are being challenged.

**Take-home Messages:** The use of a validated assessment tool like the MaSP allows us to determine the flaws of SP performance during an OSCE, permitting us to consider these for improving future training sessions.

## #3Q Short Communications - Simulated Patients

3Q5 (2522)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.15, Level 0

**“The most important thing is the safe and encouraging environment where you feel you can screw up” - Students’ views on simulations and debriefings**

### AUTHOR(S):

- Asta Toivonen, University of Helsinki, Department of Public Health, Finland (Presenter)
- Eeva Pyörälä, University of Helsinki, Centre for University Teaching and Learning, Finland

### ABSTRACT

**Background:** At the University of Helsinki, fourth year medical students practice challenging encounters in their communication skills studies with professional actors as simulated patients (SPs). A reflective debriefing discussion follows each simulation. The simulations are organized in small groups facilitated by a clinical teacher. All students take the role of a doctor once. We aimed to explore students’ views on learning challenging patient encounters by means of actor simulations and debriefing.

**Summary of Work:** We collected the data in 2014 and 2015 from the 4th year medical students as an online assignment at the end of the communication skills course. The students were asked how they perceived SPs and debriefing discussions in learning communication. The informed consent to using the answers in the study was inquired. The open-ended answers concerning simulations and debriefing were examined using qualitative content analysis.

**Summary of Results:** 209/228 (92%) students participated reflecting both what they had learned and how they experienced simulations. They valued the use of SPs in preparing for patient encounters. They learned in simulations both by taking the doctors role themselves and observing their peers. Students emphasized the importance of empathy and identifying emotional reactions. Debriefings offered valuable perspectives from SPs, constructive feedback and views of experienced clinicians. Reflection brought up multifaceted views and raised awareness of one's own behavior. These supported students’ self-efficacy beliefs.

**Discussion and Conclusions:** The goal of the communication skills studies is to prepare medical students to face versatile patient encounters. Students considered learning challenging communication with SPs and reflective debriefing safe and effective. Simulations revealed the emotional sides of the communication skills practices whereas the debriefing discussions provided the opportunity to reflect. Reflection-on-action after simulations was essential to enhance learning.

**Take-home Messages:** SPs and reflective debriefing discussions provide an effective method for learning challenging communication. Both taking the doctors role and observing their peers is valuable for the students. Reflection in the debriefing discussions is crucial for learning communication.

## #3Q Short Communications - Simulated Patients

3Q6 (595)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.15, Level 0

### Using Standardized Clinical Skills Assessment (CSA) Metrics to Predict Student Clinical Performance

#### AUTHOR(S):

- Michael Allen, The Albert Einstein College of Medicine, USA (Presenter)
- Felise Milan, The Albert Einstein College of Medicine, USA

#### ABSTRACT

**Background:** Objective Structured Clinical Examinations' (OSCEs) quantitative data may not comprehensively capture the level of students' clinical skills as students with similar scores exhibit wide variability in their future clinical performance. The purpose of this study is to explore how standardized patient's (SPs) written comments on second and third-year student OSCE performances help to explain clinical performance differences for those students with similar quantitative OSCE scores.

**Summary of Work:** Standardized patients (SPs) write comments in the categories of: history, physical exam, communication/interpersonal skills, and global rating in OSCEs occurring at the end of second and third-year at the Albert Einstein College of Medicine. We analyzed approximately 32,400 OSCE performance comments made from 2010-2018. The authors reviewed these comments for themes and applied a scale rating their relative positivity or negativity. Analyses to evaluate the correlation between the themes and ratings with student's quantitative OSCE scores as well as the correlation between these comments and the students' future clinical clerkship grades (honors, high pass, pass, fail) are ongoing.

**Summary of Results:** A total of 158 unique themes were identified from each domain as follows: interpersonal/communication skills (n=66) by global rating (n=50), physical exam (n=23) and history (n=19). The presence or lack of empathy was the most common theme while other recurring themes included: student's organization, use of questions, establishment of rapport, and display of emotional intelligence. Correlation with quantitative OSCE scores and clinical clerkship grades are ongoing with results expected by the 2019 AMEE conference.

**Discussion and Conclusions:** Interpersonal/Communication skills' themes were most numerous and often found in the comments of other domains, implying a greater impact on all parts of the encounter. Consistent with prior literature, global rating's most common positive and negative comments center on empathy suggesting that it's perceived as the most remarkable aspect of both good and bad encounters.

**Take-home Messages:** Qualifying student's performance affords educators the opportunity to provide students richer, more actionable feedback. Furthermore, the identification of themes that can reliably predict the future clinical performance of students may identify students struggling in ways that quantitative assessments do not. This permits efficient use of an institution's limited remediation resources and augments educators' ability to help students progress.

## #3Q Short Communications - Simulated Patients

3Q7 (744)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 0.15, Level 0

### Balancing between realism and feedback: How students value the role of simulated patients in their learning process

#### AUTHOR(S):

- Annelies Lovink, University of Twente, Technical Medicine, The Netherlands (Presenter)
- Marleen Groenier, University of Twente, Technical Medicine, The Netherlands
- Anneke van der Niet, Maastricht University, SHE, The Netherlands
- Heleen Miedema, University of Twente, Technical Medicine, The Netherlands
- Jan-Joost Rethans, Maastricht University, FHML, The Netherlands

#### ABSTRACT

**Background:** In medical education simulated patients (SPs), lay persons who are trained to portray patients, are used extensively (Barrows, 1993). Although research shows that using SPs improves learning outcomes of students (Kaplonyi et al., 2017), it is unknown how students feel about the contribution of the SP during the SP-student encounter. This study explores students' perceptions of the influence of SP interaction on their learning process.

**Summary of Work:** Following ethical approval, 15 bachelor students were recruited. Students' perceptions of meaningful learning experiences during SP-student encounters were explored through in-depth, semi-structured interviews. Also, the specific contribution of the SP to these experiences was examined. Transcribed interviews were qualitatively analyzed using the grounded theory method (Watling & Lingard, 2012). Three researchers independently coded the first data using general principals of open coding. Themes emerged through an iterative process of discussion among all researchers about the coded data.

**Summary of Results:** A preliminary analysis revealed the following themes: 1) Realism. This seems to depend on the timing of the SPs actions and reactions. The encounter feels more realistic for students when the SP is open to students' interventions. 2) Incorporated feedback. Feedback as part of the (non-)verbal behavior of the SP during role-play is considered as corrective and calming. For appropriate feedback it might be important that the SP can adapt to the students' level during the encounter. 3) Self-reflection. Interaction with a SP seems to contribute to self-reflection and identity development of healthcare professionals. A full analysis will be presented.

**Discussion and Conclusions:** Based on the preliminary results we conclude that students seem to perceive realism to be important for their learning experience. Students also valued the feedback of the SP as part of the interaction. A meaningful learning experience, that contributes to identity development, seems to depend on the right balance between realism and incorporated feedback.

**Take-home Messages:** The right balance between realism and feedback during SP-student interactions contributes to meaningful learning experiences. These experiences might play an important role in students' self-reflection and identity development.

## #3R Short Communications - Postgraduate Education 1

### 3R1 (1275)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.16, Level 0

### Becoming a medical specialist in Europe in the 21st century: Comparative Analysis of Postgraduate Medical Education in Estonia, Latvia and Lithuania

#### AUTHOR(S):

- Rille Pihlak, University of Manchester, UK (Presenter)
- Helen Reim, Estonian Junior Doctors Association, Estonia
- Marta Velgan, Estonian Junior Doctors Association, Estonia
- Eva Antsov, Estonian Junior Doctors Association, Estonia
- Saara Sadrak, Estonian Junior Doctors Association, Estonia
- Aleksandr Michelson, Praxis Centre for Policy Studies, Estonia

#### ABSTRACT

**Background:** Accreditation of postgraduate training (PGT) is not mandatory in many countries and there have been no studies analysing PGT in the Baltics. This trainee lead three year long project aimed to assess the current state of PGT and give clear guidance of changes needed. Due to the lack of national expertise on medical education, partnership was formed with Praxis Centre for Policy Studies who assisted in conducting the research. Quantitative and qualitative methodologies were combined to compare training to the WFME Global Standards.

**Summary of Work:** The project consisted of five parts: 1)comprehensive benchmarking study 2)Estonian workshops, interviews and focus groups with stakeholders 3)surveys, workshops and focus groups in Latvia and Lithuania 4)Baltic and Nordic junior doctors meetings 5)international conference on PGT. First 3 parts of the project were to gather information for the benchmarking study. The 4th and 5th parts helped to put the results in a larger international context and see if the themes arising from the Baltics are also present in other European countries. Meetings between Estonian, Latvian, Lithuanian, Finnish, Swedish and Norwegian junior doctors organisations served as focus groups and the final international conference aimed to bring together stakeholders and provide potential solutions.

**Summary of Results:** The main results show that practices differ across countries, institutions and departments. Rarely does PGT in the Baltics fully meet the international standard. Major concerns pertain to improper application of regulations, inconsistency of supervision, lack of assessment of competencies, unsystematic teaching of soft skills, inconsistent appraisals, and absence of a comprehensive feedback system. Key policy recommendations to improve the current situation were developed and proposed. The results of the benchmarking study were presented internationally and locally and in Estonia this project has led to major discussions, media coverage and forming of a national taskforce on PGT.

**Discussion and Conclusions:** This first-ever systematic mapping of PGT in the Baltic countries showed that partnering with an independent research organisation can help take on large research projects and come up with impartial solutions.

**Take-home Messages:** Comprehensive analysis and solution oriented collaboration with international partners can lead to durable improvements in PGT.



## #3R Short Communications - Postgraduate Education 1

### 3R2 (2755)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.16, Level 0

### Postgraduate training in Europe - results of a European Survey

#### AUTHOR(S):

- **Francisco Ribeiro Mourão, European Junior Doctors' Association (Presenter)**
- Svenja Moser, European Junior Doctors' Association
- Brigita Jazbar, European Junior Doctors' Association
- Agostinho Moreira de Sousa, European Junior Doctors' Association
- Josephine Elliott, European Junior Doctors' Association
- Kitty Mohan, European Junior Doctors' Association

#### ABSTRACT

**Background:** The organisation of Postgraduate training (PGT) varies between countries, despite conferring the same European qualification at the end of training.

**Summary of Work:** The 22 members of the European Junior Doctors' (EJD) Association (represented by national medical associations or junior doctors' committees) were surveyed online between 2017 and 2018.

**Summary of Results:** In 50% of countries, application for residency occurs directly after Medical School, with 41% applying for residency via a centralised national system. The responsibility for the regulation of the number of residency posts varies between countries, with no regulation of residency posts reported in 2 countries. PGT is time-based in approximately half of the countries surveyed, with 32% reporting combinations of time and competency-based training. In 42%, junior doctors (JD) have a double status of student and employee, whilst in other countries JD have a status only as an employee. Supervision of residency quality is the responsibility of the Medical chamber/council in 36%, the Ministry of Health in 18%, and universities in 18%. 1 country reported no implemented quality assurance systems. Assessments form an important part of PGT and examinations at the end of a year or module take place in the majority of countries surveyed. However, 4 countries reported no assessment during residency. A National Specialist exam was reported in 55%. Importantly, JD were found to share legal responsibility for clinical decisions with their supervisor in 60% of countries. In 18%, the supervisor has full legal responsibility throughout residency, and, in 9%, JD are fully responsible for their clinical decisions if already signed off on that specific competency. In 1 country, JD are fully legally responsible. Finally, the length of residency training varies between different countries and specialties and, in 73%, JD can undertake their residency working less than fulltime.

**Discussion and Conclusions:** Medical PGT is carried out in different forms across Europe and application to PGT, posts' number regulation and organisation greatly varies.

**Take-home Messages:** There are important variations in PGT evaluation and quality assurance systems that should be carefully addressed in different countries.

## #3R Short Communications - Postgraduate Education 1

### 3R3 (2391)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.16, Level 0

### Learning Analytics from Milestones Data: Impetus for Change at the National Specialty Level

#### AUTHOR(S):

- **Stanley Hamstra, Accreditation Council for Graduate Medical Education, USA (Presenter)**
- Laura Edgar, Accreditation Council for Graduate Medical Education, USA
- Kenji Yamazaki, Accreditation Council for Graduate Medical Education, USA
- Nicholas Barbaro, Indiana University School of Medicine, USA
- Kim Burchiel, Oregon Health and Science University, USA
- Nathan Selden, Oregon Health and Science University, USA

#### ABSTRACT

**Background:** Accreditation systems that have embraced a competency-based approach rely increasingly on analysis of outcomes data at the level of the learner, or learning analytics. Specialty societies can be effective partners in interpreting these data to maximize impact for improvement and change. While some early studies of Milestones data have suggested how they might be useful to program directors for curricular improvement, there have been no reports of cooperative analysis between the central accreditation body and specific stakeholders for systems-level change.

**Summary of Work:** Level 4 Milestones represent substantial fulfillment of residency training but are not mandated as a graduation requirement. This allows for meaningful variance in patterns of data, a key requirement for learning analytics. We analyzed academic year-end Milestone ratings for over 1300 neurosurgery residents from 2015-2016. For each of the Patient Care sub-competencies, we determined the percentage of graduating residents who attained Level 4 across all training programs nationally. These (aggregate) data were then presented to the Residency Review committee for accreditation and the Society of Neurological Surgeons, representing academic department chairs and residency directors, for interpretation (i.e. 'co-creation' of meaning). We then followed up with these stakeholders two years later to examine what changes they had made.

**Summary of Results:** Analysis of Level 4 attainment by sub-competency revealed clues to variation in training or experience that required attention. These data were instrumental in helping educational leaders in neurosurgery confirm which subspecialty areas were within core training and which were not. In addition, these data helped these leaders modify the next iteration of their specialty Milestones to identify core versus subspecialty competencies.

**Discussion and Conclusions:** Partly in response to these data, the neurosurgery community significantly revised their Milestones, which amounts to changes in national curricular expectations. Working in partnership with specialty stakeholders, we were able to assist in creating meaningful educational change at the national level regarding standards of training.

**Take-home Messages:** This study illustrates how learning analytics can be applied in health professions education to better understand meaningful variation in learner progression, and to assist stakeholders at the national level regarding standards of training.

## #3R Short Communications - Postgraduate Education 1

### 3R4 (1738)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.16, Level 0

### Working Conditions of Residents-in-training - A Taiwan National Survey after Imposing Working Hours Restriction

#### AUTHOR(S):

- Mei-Yi Chou, Joint Commission of Taiwan, Taiwan (Presenter)
- Su-Hua Lee, Joint Commission of Taiwan, Taiwan
- Chung-I Huang, Joint Commission of Taiwan, Taiwan
- Pa-Chun Wang, Joint Commission of Taiwan, Taiwan
- Chii-Jeng Lin, Joint Commission of Taiwan, Taiwan
- Chung-Liang Shih, Ministry of Health and Welfare, Taiwan

#### ABSTRACT

**Background:** To ensure the quality of education and to protect essential off-work rest for the residents (including PGY) in training, the Ministry of Health and Welfare of Taiwan granted the Guideline of Resident Working Hour Restriction (GRWHR) in August 2017 that limit regular daytime, on-duty shift, and weekly total working hours. In this study we conducted a national survey, with aims to understand the status and difficulties in the execution of GRWHR.

**Summary of Work:** In this cross-sectional, nation-wide questionnaire survey study, we collected data from 3,342 trainees (127 teaching hospitals) who worked in either medical center, regional hospitals, or local hospitals. The questionnaire surveys the working hours and the impacts of GRWHR on patient care, clinical training, and patient safety.

**Summary of Results:** The mean daytime work is  $8.5 \pm 0.6$  hrs (6.5~10 hrs/day, family medicine ~ orthopedic); All comply with GRWHR (10 hrs/day). The mean on-duty shift working time is  $26.5 \pm 3.4$  hrs (16~32 hrs/day, anesthesia ~ radiation oncology). Finally, the weekly total working hours is  $68.9 \pm 13.5$  hrs (41~100 hrs/week, clinical pathology ~ rehabilitation). The on-duty hour violation (>28 hrs/day) rate is 15.6%; and the weekly total working hour violation (>80 hrs/week) rate is 9.9%. The violation rates are different among specialties of on-duty hour (highest: anatomical pathology, 33.3%,  $p < 0.001$ ) and hospital level (highest: local hospitals, 24.1%,  $p < 0.001$ ). The violation rates are different among specialties of the weekly total working hours (highest: plastic surgery, 33.3%,  $p < 0.001$ ) and hospital levels (highest: medical centers, 12.0%,  $p < 0.001$ ). The qualitative survey data shows that, the most common reasons for over-time are: insufficient manpower, scheduling operation, writing medical record, or handling emergency cases... etc.

**Discussion and Conclusions:** The effect GRWHR is largely satisfactory, the majority of education programs complied with regulations. However, residents of specific specialty working at local hospitals are at higher risk of overwork. Hospitals can use more supporting staffs or nurse practitioners to cope with manpower shortage problems.

**Take-home Messages:** Audiences will understand the effect of restriction on resident working hour, and the impacts to education and patient safety.

## #3R Short Communications - Postgraduate Education 1

### 3R5 (2514)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.16, Level 0

### Can junior doctors work less than full time whilst undertaking their residency in Europe?

#### AUTHOR(S):

- Kitty Mohan, European Junior Doctors' Association, Belgium (Presenter)
- Piotr Kolczyński, European Junior Doctors' Association, Belgium
- Josephine Elliott, European Junior Doctors' Association, Belgium
- Brigita Jazbar, European Junior Doctors' Association, Belgium

#### ABSTRACT

**Background:** With increasing numbers of women embarking on a career in medicine, as well as a rise in doctors undertaking a 'portfolio career', it has never been more important for doctors to be able to work less than full time (LTFT). Working LTFT during residency is permitted in the EU under Article 25 of the Mutual Recognition of Professional Qualifications Directive. However, it is unclear how individual, competent authorities interpret this legislation.

**Summary of Work:** A survey was sent to all national delegations of the European Junior Doctors Association (EJD) in August and September 2018. The survey asked whether it is possible to undertake residency training whilst working LTFT in their country. 21 responses were received and analysed using descriptive methods.

**Summary of Results:** In over three-quarters of EJD countries, it is possible to undertake residency training working LTFT. The exceptions to this are Italy, Greece, Estonia, Latvia, Lithuania and Turkey. The Netherlands have the largest proportion of their junior doctor workforce working LTFT (40%), however Dutch doctors are not allowed to work less than 70% full-time hours. In comparison, most doctors in EJD member countries are allowed to work at 50% of full time hours. In ten of the countries surveyed (Portugal, Greece, France, Ireland, UK, Austria, Croatia, Malta, Spain, Slovenia), doctors must fulfil eligibility criteria prior to working LTFT. In 9 countries (Sweden, Portugal, Greece, France, Ireland, Norway, Spain, the Netherlands and the UK), it is necessary to reapply for LTFT status, however, the period of time before reapplication varies considerably. In all EJD member countries, postgraduate training is prolonged when a junior doctor works LTFT.

**Discussion and Conclusions:** The ability to work LTFT can enable junior doctors to remain in their residency whilst caring for children or other dependents, or whilst pursuing academic interests. This study highlighted that despite being permitted by EU legislation, in over a quarter (28.5%) of EJD member countries, working LTFT is currently not possible.

**Take-home Messages:** We call on educators, decision makers and Governments to work together to overcome the barriers to LTFT working across Europe.

## #3R Short Communications - Postgraduate Education 1

### 3R6 (1566)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.16, Level 0

### How Internal Medicine Residents Experience Their Daily Work: A Qualitative Study

#### AUTHOR(S):

- **Matteo Monti, Centre Hospitalier Universitaire Vaudois, Switzerland (Presenter)**
- Céline Bourquin, Centre Hospitalier Universitaire Vaudois, Switzerland
- Friedrich Stiefel, Centre Hospitalier Universitaire Vaudois, Switzerland
- David Gachoud, Centre Hospitalier Universitaire Vaudois, Switzerland
- Vanessa Kraege, Centre Hospitalier Universitaire Vaudois, Switzerland
- Antoine Garnier, Centre Hospitalier Universitaire Vaudois, Switzerland

#### ABSTRACT

**Background:** In a 2015 time-motion study, we showed that internal medicine residents spent a large amount of their time performing administrative tasks and using computers. This prompted major reforms aimed at increasing residents' work efficiency and satisfaction. We introduced secretaries for residents, and a new daily organisation in an attempt to reduce non-added value tasks and unnecessary interruptions. In this study, we explore how internal medicine residents experience their daily work organization.

**Summary of Work:** 40 residents participated in four focus groups (FG). Each FG lasted about 90 minutes and was conducted by two experienced moderators with no professional link to the participants. FG discussions were audio-recorded and transcribed verbatim. Data were analyzed with qualitative content analysis.

**Summary of Results:** Residents expressed positive attitudes towards work organization. Initial analyses indicate that residents' experience is concurrently characterized by (1) a sense of individual agency - referring to how residents come to alter, though not necessarily intentionally, the general structure and organization of work -, and (2) a sense of constraint or restricted agency. For instance, with regard to the sense of individual agency (1), a number of residents do not take the opportunity to delegate tasks to the medical secretary, arguing that they tend to rely on themselves or find the added value of the delegation process to be low as well as time consuming. As another example, some residents use a significant part of the time planned for the preparation of the ward round to take a coffee break with their colleagues. Conversely, a sense of restricted agency (2) was manifest in narratives of residents feeling pressured and constrained by the daily schedule, with an experience of being overwhelmed by the tasks to accomplish and the looming danger of unforeseen incidents as the day progresses.

**Discussion and Conclusions:** Exploring the effects of the reforms necessitate complementing the observation of the residents' daily activities by an in-depth engagement with their experience.

**Take-home Messages:** Beyond the intended goal of increasing work efficiency and satisfaction, the consequences of a change in work organization in a medical Department have profound effects on residents' experience and feeling towards their work.



## #3S Short Communications - Teaching and Learning 1

### 3S1 (916)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.51, Level 0

### Watch and learn? Exploring the impact of using medical reality television as an adjunct to case-based learning with undergraduate medical students

#### AUTHOR(S):

- Fiona Osborne, Northumbria Healthcare NHS Trust, UK (Presenter)
- Miles Harrison, Northumbria Healthcare NHS Trust, UK
- James Fisher, Northumbria Healthcare NHS Trust, UK
- Belinda Bateman, Northumbria Healthcare NHS Trust, UK

#### ABSTRACT

**Background:** Over the last decade, the use of technology to enhance undergraduate medical learning has rapidly expanded and diversified. One area yet to be explored is using medical reality television to facilitate clinical learning. This strategy does not feature in published medical educational literature, but promising research is emerging from other disciplines.

**Summary of Work:** A teaching session was developed using clips from medical reality television as a focus for case-based learning for undergraduate medical students. The research questions were: - To what extent does using reality TV as part of case-based learning stimulate an emotional response in students? and - To what extent does using reality TV within case-based learning develop medical students' understanding of their learning needs in the clinical environment? A case-based methodology was used to address the research question from an interpretivist perspective. The theory of 'anchored instruction' was applied as a framework for interpreting students' experiences. Data was triangulated from two sources. Two experienced educationalists observed a teaching session of 20 students who took field notes. Five students then took part in semi-structured interviews. Data was analysed through an inductive thematic analysis.

**Summary of Results:** A diverse range of emotional responses to the reality television clips was expressed including: excitement, amusement, concern, nervousness, sadness and joy. Interviewees reported the reality television cases made the clinical scenarios more memorable and realistic. Key themes identified were that students felt more engaged and were stimulated to reflect on their future practice. Several students also identified gaps in their clinical knowledge such as interpreting results, practical aspects of prescribing and end of life care. However, they considered the reality television clips inferior to real patient interaction.

**Discussion and Conclusions:** Students perceived reality television as a highly realistic and relatable medium and a fun, memorable way to contextualise learning from the classroom to real life, a finding mirrored in previous studies in other fields. The high degree of emotion expressed may explain the improved subjective memorability of the cases according to the established link between memory and emotion.

**Take-home Messages:** Medical reality television can be a useful adjunct to case-based learning by empathetically engaging students with clinical scenarios and facilitating self-identification of learning needs.

## #3S Short Communications - Teaching and Learning 1

### 3S2 (1534)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.51, Level 0

### Switched on learning using reality TV - a how to guide

#### AUTHOR(S):

- **Miles Harrison, Northumbria Healthcare Foundation Trust, UK (Presenter)**
- Fiona Osborne, Northumbria Healthcare Foundation Trust, UK
- Belinda Bateman, Northumbria Healthcare Foundation Trust, UK
- James Fisher, Northumbria Healthcare Foundation Trust, UK

#### ABSTRACT

**Background:** Technological advances have allowed new avenues to be explored in undergraduate medical education, in particular the use of television. This appeals to recent generations of medical students born in the digital age. Television can improve engagement and develop emotional responses, promoting learning. The use of fictional medical dramas has been widely reviewed however there is no published data on using medical reality television (MRT) to teach medical students in the UK or elsewhere.

**Summary of Work:** An innovative teaching session was developed using the UK MRT series '24 Hours in A&E'. We selected patients whose level of acuity made student exposure less likely: abdominal aortic aneurysm, fast atrial fibrillation and acute pulmonary oedema. We searched for the conditions using the 'learning on screen' resource (this allows educational use of programmes to UK universities with an ERA licence). The episodes were edited to two-to-five minute clips, following the patient from admission to discharge. After each clip the students were given a task: prescribing, requesting investigations, interpreting results or role-playing communication. The three-hour session was pitched at final year medical students with tasks similar to those expected of a first year doctor.

**Summary of Results:** Students fed back via existing university processes and tutors via debrief. The clips were beneficial in giving context and relevance to the cases, however these were time consuming to produce. Improved engagement with the tasks was seen and reported, but required intensive faculty input.

**Discussion and Conclusions:** MRT mirrors the true multi disciplinary team and encourages accurate role modelling, this was supported by facilitators from a range of clinical backgrounds; doctors, nurses and pharmacists. The urgency of prescribing anti-arrhythmics and analgesia when faced with a patient in extremis was clearer. Students critically reflected on clinician communication with implications for their own communication. However production of teaching materials was time consuming. Students required significant tutor support to accurately complete tasks. Although they expressed a preference for this over paper based teaching, they still found real patient encounters the most memorable.

**Take-home Messages:** MRT appears to bridge the gap between knowledge and clinical practice. This case provides insight for replication in other learner groups and countries, with local copyright considerations.

## #3S Short Communications - Teaching and Learning 1

3S3 (1967)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.51, Level 0

### Teaching neurology using movies in junior occupational therapy students

#### AUTHOR(S):

- **Ping-Keung Yip, School of Medicine, Fu-Jen Catholic University, Taiwan (Presenter)**
- Yen-Ying Liu, School of Medicine, Fu-Jen Catholic University, Taiwan
- Chia-Hwa Chou, Department of Occupational Therapy, Fu-Jen Catholic University, Taiwan
- Vinchi Wang, School of Medicine, Fu-Jen Catholic University, Taiwan
- Jen-Hung Yeh, School of Medicine, Fu-Jen Catholic University, Taiwan
- Kun-Lung Hung, Fu-Jen Catholic University Hospital, Taiwan

#### ABSTRACT

**Background:** Remodeling neurology education for medical or paramedical students through effective pedagogical strategies to reduce 'neurophilia' have been advocated. Practical discussions of systemic curriculum planning of teaching neurology by using movies are very limited. The present study is tried to enhance learning motivation of clinical neurology, to introduce the psycho-social aspects and caring issues of neurological patients via systemic use of Cinemeducation.

**Summary of Work:** From 2013 to 2018, students of the second year of Occupational Therapy (OT) took the course of General Medicine (focused on Neurological and Pediatric subjects). According to the learning objectives of the syllabus, the course was composed of 14 to 16 topics. 1-2 selected and recommended movies for 9 topics related to neuroscience were listed at the beginning. Ten movies were considered compulsory for the course and ask the students to watch the movies before the classes. A study guide of each movie was supplemented to help the students for better understanding of the correlation of movies and the learning subjects. In order to ensure the students have watched the movies before or immediately after the classes, a few questions are designed for evaluation to the knowledge of the movies content and story. The evaluation was incorporated in the formal term examination.

**Summary of Results:** The overall course satisfaction was good to excellent, ranged from 4.3 to 4.4 which were quite constant as teaching using similar teaching method and adjunctive strategy, i.e., Cinemeducation. For the same period the satisfaction of movie teaching was increasing yearly 4.3+/-0.8 (2015), 4.6+/-0.6 (2016), 4.7+/-0.6 (2017), 4.8+/-0.5 (2018) as the supplementary measure and movie watching guides were improving. The feedback for the section designed of movies in 2018 was the followings: (1) overall movies teaching satisfaction 4.8+/-0.5; (2) watching and study guide 4.8+/-0.4; (3) movies can enhanced knowledge learning 4.8+/-0.5; (4) humanistic care learning 4.8+/-0.5; (5) ethical learning 4.7+/-0.5.

**Discussion and Conclusions:** With the help of proper selection of films, providing movies study guides, group discussion and movies-oriented examination, we have created an holistic approach, movies-assisted neurology curriculum for junior OT students.

**Take-home Messages:** The use of films in conjunction with classroom instruction make neurology teaching easier for junior OT students.

## #3S Short Communications - Teaching and Learning 1

3S4 (1152)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.51, Level 0

### Case Based Learning; but does 'Cake Based Learning' drive better learning?

#### AUTHOR(S):

- Zarabeth Newton, Cardiff University, UK (Presenter)
- Marcus J Coffey, Cardiff University, UK
- Simon Atkinson, Bristol University, UK

#### ABSTRACT

**Background:** It is a challenge to generate dynamic and productive learning environments in Case Based Learning (CBL) small group tutorials with large cohorts of students. Enabling students to discuss their misconceptions and de/reconstruct their knowledge without judgement or fear from their peers requires the fast establishment of a functional group dynamic. Cardiff and Bristol University have looked into a way that these barriers can be overcome, productive learning communities and groups quickly become 'norming'. To promote a social component to CBL, students were encouraged to bring snacks to their small group tutorials, generating the term 'Cake Based Learning'.

**Summary of Work:** To review differences in group dynamics when snacks were included in the tutorials, students were asked to complete a voluntary online survey regarding their group dynamic and learning environments.

**Summary of Results:** The majority of students in groups with good dynamic felt food/refreshments helped promote a positive learning environment. Results indicated a clear correlation between groups that brought food/refreshments with an improved group dynamics as defined as feeling part of a productive team and having a good learning environment. Some students specifically indicated that their group dynamic was not a result of the 'Cake Based Learning'. Students in groups with strained dynamic felt that food/refreshments did not improve or 'cure' the more difficult learning environment.

**Discussion and Conclusions:** It was previously identified that the provision of snacks in teaching sessions had a positive effect on course evaluation. This did not investigate whether the snacks had a positive correlation on group 'forming' and in generating a positive learning environment. We have demonstrated here that 'Cake Based Learning' is a characteristic of groups that quickly created a productive learning dynamic. However, it did not solve a poor group dynamic so alternative interventions or resolutions should be sought.

**Take-home Messages:** 'Cake Based Learning' is a quick and enjoyable way of generating a good learning community and develop a productive group dynamic in small group tutorials. Thereby, improving student evaluations of their learning, irrespective of their tutors.

## #3S Short Communications - Teaching and Learning 1

3S5 (1866)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 0.51, Level 0

### Meeting of Minds: Exploring Medical Literature and Critical Analysis through a Student-Led Undergraduate Journal Club

#### AUTHOR(S):

- Benjamin Hui, University Hospitals Birmingham, UK (Presenter)
- Rajan Pooni, University Hospitals Birmingham, UK
- Kathryn Waite, University Hospitals Birmingham, UK

#### ABSTRACT

**Background:** Journal club demonstrates a forum which can make medical literature more accessible, incorporating critical thinking and positive reading skills while fostering professional colleague relationships. A student-centred journal club may offer a safe environment where learners can develop these skills, although there is a lack of literature on the subject. We aimed to implement an undergraduate journal club for students to learn and apply critical analysis of medical literature.

**Summary of Work:** The 'Student Led Undergraduate (SLUG) Journal Club' was created for final year students. The initial session gave students an overview of journal club, introducing PICO, GATE frame and RAMMbo as tools for critical analysis. An example presentation was delivered allowing students to observe the application of these frameworks. Subsequently, students would take the lead for each weekly meeting, identifying a paper of interest and preparing a presentation, while guided by a teaching fellow. The lead student would present to the rest of the group and then engage in questioning/ discussion. After the session, the presenter would receive feedback on their presentation and audience interaction from the teaching fellow.

**Summary of Results:** When surveying students, there was increased confidence in the use of critical analysis frameworks following the introductory session, compared to before. Surveying presenters found the opportunity to prepare, present and engage in discussion useful towards their clinical and professional development, and confidence in future presentations at a journal club. Presentation feedback from teaching fellows demonstrated a high quality of literature identification and critical analysis using the introduced frameworks.

**Discussion and Conclusions:** The SLUG Journal Club demonstrates a positive environment offering students the opportunity to learn about evidence-based practice and critical analysis while contributing to their development as future clinicians. A high level of presentation demonstrates successful application of critical analysis tools. Integrating journal club into the core curriculum would be the next stage in its development, allowing for formal evaluation by the medical school.

**Take-home Messages:** An undergraduate journal club can be an effective means of exploring critical analysis of medical literature. It establishes an intellectually stimulating environment which contributes towards medical students' development as future clinicians.



## #3T Round Table – Faculty Development

### 3T1 (3250)

**Date of Session:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L5, Level 1

### How To Make Faculty Development “Pay” For Itself?

#### AUTHOR(S):

- Candace Smith-King, Spectrum Health/Helen DeVos Children's Hospital/Michigan State University College of Human Medicine, USA (Presenter)
- Monica van de Ridder, Spectrum, USA
- Michael Werkeme, Spectrum Health/Helen DeVos Children's Hospital/Michigan State University College of Human Medicine, USA
- Lisa Lowry, Spectrum Health/Helen DeVos Children's Hospital/Michigan State University College of Human Medicine, USA

#### ABSTRACT

Faculty development of medical educators is an important requirement for program accreditation. It also has the potential to improve the teaching and learning environment, affect physicians' wellness and collaboration, and culture of patient safety. Teaching hospitals worldwide have different approaches and expectations for faculty development. Some regulate and require it; some systems provide financial support; some systems leave it up to the faculty member to decide their level of participation; and some systems do not provide any support. In the context of teaching hospitals that don't encourage and support faculty development, organizing and implementing it for medical education (under)graduate programs can be a challenge.

The presenter will discuss best practices, solutions and experiences related to faculty engagement, institutional engagement, and finances/return on investment in faculty development courses in a challenging context.

## #3T Round Table – Faculty Development

### 3T2 (345)

**Date of Session:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L5, Level 1

### Educating Future Educators: Designing and Implementing Elective Courses in Health Professions Education

#### AUTHOR(S):

- Monika Kvernenes, University of Bergen, Faculty of Medicine, Norway (Presenter)
- Stuart Lubarsky, McGill Centre for Medical Education, Canada (Presenter)

#### ABSTRACT

Most clinicians will at some point in their careers take on the role of educator, facilitating learning amongst students, patients or other target groups (Dandavino 2007). During the last decade or so, several schools and universities have started to offer elective courses in health professions education with the overall aim of helping students gain insight into how learning can be facilitated on a variety of levels (Pasquinelli 2008, Khamisa 2016). Most health professions training programs, however, do not have key curricular structures in place to adequately prepare learners for their roles as teachers, supervisors and assessors. Scholars at University in Bergen (Norway) and McGill University (Montreal, Canada) have independently developed and implemented elective courses with health professions education and teaching & learning as key topics.

We will share some of our experiences developing and implementing elective courses in medical education, including evaluation results and examples of outputs from the courses.

## #3T Round Table – Faculty Development

### 3T3 (263)

**Date of Session:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L5, Level 1

### How to break barriers? International faculty development collaboration

#### AUTHOR(S):

- **Che-Wei Thomas Lin, Wanfang Hospital Taipei Medical University, Taiwan (Presenter)**
- S. Barry Issenberg, University of Miami Gordon Center for Simulation and Innovation In Medical Education, USA
- Benjamin Berg, University of Hawaii, John A Burns School of Medicine, USA
- Gen Ouchi, University of the Ryukyus, Okinawa Clinical Simulation Center, Japan
- Daniel Salcedo, Taipei Medical University, Center for Education in Medical Simulation, Taiwan
- Chien-Chih Wu, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

We have successfully implemented a faculty development collaboration among simulation educators in Taiwan, Japan and the United States. We will describe the process of creating and fostering international partnerships for the development of simulation faculty and will share a model for collaboration and cooperation between different countries and cultures. Successful approaches that support these types of international activities will be discussed, together with an analysis of potential difficulties and barriers to the globalization of faculty development efforts in simulation education for healthcare providers.

## #3T Round Table – Faculty Development

### 3T4 (2100)

**Date of Session:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L5, Level 1

### The role of Host Organizations in improving ethical practice in mentoring within medicine: A systematic scoping review

#### AUTHOR(S):

- Wan Ying Elisha Chia, Yong Loo Lin School of Medicine, National University of Singapore, Singapore (Presenter)
- Kuang Teck Tay, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
- Mien Chew Annelissa, Medical Library, National University of Singapore Libraries, National University of Singapore, Singapore
- Ying Pin Toh, Department of Family Medicine, National University Hospital Singapore, Singapore
- Lalit Kumar Radha, Division of Supportive and Palliative Care, National Cancer Centre Singapore, Singapore

#### ABSTRACT

The abuse of mentoring processes has become an increasing source of concern. Host organizations play an important role in providing supervision and oversight to prevent and mitigate toxic mentoring practices. At present, little is understood about the nature and role of host organizations in mentoring processes, and how effective oversight of mentoring programs can be implemented. To address this gap, a systematic scoping review of prevailing accounts of the role of host organizations in mentoring was carried out.

The presenter discusses a strategy to avoid abuse in mentoring processes.

## #3U Conference Workshop

### 3U (2193)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room L8, Level 1

### Programmatic Assessment in Action: Are We Taking Full Advantage? Theory and Practical Applications

#### PRESENTER(S):

- Dario Torre, Uniformed Services University of Health Sciences, USA
- Marjan Govaerts, Maastricht University, The Netherlands
- Cees van der Vleuten, Maastricht University, The Netherlands

#### ABSTRACT

**Background:** Programmatic assessment (PA) has renewed the way we think about assessment in a post psychometric assessment era. PA is an holistic approach to assessment that combines assessment of learning with assessment for learning. Programmatic assessment seems to readily embraced by educators. The theory appears to be able to fit practice, however there are dilemmas that need to be considered and the implementation needs to be carefully designed. The understanding of the PA model can be helpful in conceptualizing assessment for the purpose of optimizing learning while arriving at a credible final assessment decision. This workshop provides participants a conceptual framework and a model to design an assessment system that allows educators to gain insight into students' growth and learning trajectories, provide ongoing meaningful feedback and utilize multiple data points from different sources to make a final decision about learners' progress. This workshop offers the opportunity for participants to discuss the usefulness of PA for the local context and the potential pitfalls during implementation

**Who Should Attend?** Teaching faculty (both junior and senior) should attend.

**Structure of Workshop:** We will provide a brief overview of the PA model, and its main theoretical concepts. We will describe how the main elements of the model, learning, assessment and supporting activities, are longitudinally integrated and complemented by intermediate and final evaluations. Next participants, using a structured worksheet, will develop an outline of how they would apply PA at their own institutions. In small groups, participants will share and discuss practical aspects, challenges, and benefits about the use of this assessment model. The workshop will conclude with a large-group discussion about practical strategies, applications challenges and potential solutions of utilizing this assessment approach in specific learning contexts.

**Intended Outcomes:** At the end of this workshop, participants will be able to:

1. Understand the PA model and its main theoretical perspectives
2. Apply the PA model to their own institution's curriculum, identifying opportunities for students' learning, growth and remediation
3. Recognize and discuss practical strategies to mitigate implementation challenges of PA.

**Level:** Introductory, no prior knowledge of topic required



## #3V Conference Workshop

### 3V (1643)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 0.11-12, Level 0

### Collaboration in lifelong learning: Making it work

#### PRESENTER(S):

- Lisa Sullivan, Global Alliance for Medical Education, Australia
- Dale Kummerle, Global Alliance for Medical Education, USA
- Celeste Kolanko, Global Alliance for Medical Education, UK
- Sherlyn Celone, Global Alliance for Medical Education, USA

#### ABSTRACT

**Background:** For the last 20 years, The Global Alliance for Medical Education (GAME) has been collaborating across various stakeholders in professional lifelong learning. In working across multiple regions, GAME has engaged with different learning communities to share education and best practices in Continuing Medical Education (CME)/Continuing Professional Development (CPD). In mid-2018, the GAME board of directors revisited its vision and mission, and crafted a new statement that reflects the current needs of the organization and, in general, lifelong learning globally. The vision is that GAME be seen as a global leader in facilitating best practices and collaboration in life-long learning translation into improved healthcare, through engaging global leaders and providing opportunities and resources to share evidence-based best practice translation, while addressing barriers and developing solutions for collaboration in lifelong learning. It can be said that Europe is at a crossroads in CME/CE/CPD, with many different interests among professions vying for dominance and/or control while in other regions globally, needs and evidence-based best practice translation in CME/CE/CPD is still in its infancy. Key stakeholders of lifelong learning are either not collaborating, or do not know how to best collaborate with groups often considered to be competitors. GAME believes that all stakeholders that benefit from lifelong learning in healthcare should work together in a collaborative fashion for the best impact on patient care.

**Who Should Attend?** All those working in the CME/CPD space who wish to effectively collaborate internationally.

**Structure of Workshop:** In small groups, participants will explore how best to collaborate. Topics investigated include

1. defining collaborative partnerships and establishing a collaborative culture
2. exploring how to incorporate the core value of transparency into collaboration
3. discussing barriers that inhibit collaboration across multi-organization stakeholder groups and review strategies to overcome them
4. identifying resources needed for successful collaboration in lifelong learning.

Participants will explore these topics and brainstorm solutions in the CME/CE/CPD context.

**Intended Outcomes:** Following participation in this workshop, learners will be able to:

1. incorporate transparency into their collaborative activities and relationships
2. ascertain and manage barriers to successful collaboration across different stakeholders
3. develop resources for encompassing successful collaboration in lifelong learning

**Level:** Intermediate and advanced

## #3W Conference Workshop

### 3W (857)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 0.49-0.50, Level 0

### Institutional Ethnography: demystifying its use for Health Professions Education Research

#### PRESENTER(S):

- Grainne Kearney, Queen's University Belfast, UK
- Fiona Webster, Western University, Canada
- Gerry Gormley, Queen's University, UK
- Nancy McNaughton, Michener Institute of Education at University Health Network, Canada
- Robert Paul, The Wilson Centre, University of Toronto, Canada
- Eleni P Kariki, Queen's University, UK

#### ABSTRACT

**Background:** Institutional Ethnography (IE) is an approach to research developed by sociologist Dorothy Smith that allows examination of the social relations that organize peoples' everyday lives. Within Health Professions Education (HPE) it has been used to study topics such as the hidden curriculum and the demonstration of 'competence.' IE makes use of the same methods as other ethnographic or qualitative approaches - interviewing, focus-groups, textual and discourse analysis - but differs quite significantly in its process of analysis. It is grounded on the political commitment that research should be undertaken not to understand the world but to change it (praxis). Its focus on understanding how social relations shape our everyday lives means that non-experts can understand IE; it can be taken up by non-social scientists. IE has been gaining popularity amongst HPE researchers. This workshop will give practical guidance in how to use IE in participant's own settings.

**Who Should Attend?** We are aware of increasing curiosity in the AMEE community regarding IE. Those interested in theory are keen to understand why Smith considers it as an alternative to mainstream sociology. For those whose research is located on the front-line of healthcare, its emphasis on informing meaningful change is appealing. We hope to provide participants with a practical understanding of IE and the beginning steps to engage it in their scholarship.

#### Structure of Workshop:

- Introduction to IE and its unique concepts, such as the "generous conception of work" and approach to texts
- Small group problem solving exercise incorporating practical examples of use in HPE research by those presenting the workshop
- Exploration of perceived benefits and difficulties using IE
- Interactive discussion where delegates can generate ideas for potential projects

**Intended Outcomes:** By the end of this workshop, attendees should have:

- Enhanced understanding of the fundamental concepts underlying IE
- Increased knowledge of existing IE research in HPE
- Practical understanding of how to begin an IE study

**Level:** Introductory - despite interest in its philosophical underpinnings and potential practical applications, IE is currently underused in HPE. This workshop should appeal both to research novices and those who are experienced in other qualitative methods/theories.

## #3X Conference Workshop

### 3X (378)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 0.96-97, Level 0

### Effective Use of Technology to Capture and Report About Entrustable Professional Activities

#### PRESENTER(S):

- Machelie Linsenmeyer, West Virginia School of Osteopathic Medicine, USA
- Olle ten Cate, University Medical Center, Utrecht, The Netherlands
- Carrie Chen, Georgetown University School of Medicine, USA
- Claire Touchie, Medical Council of Canada and University of Ottawa, Canada

#### ABSTRACT

**Background:** Entrustable professional activities (EPAs) facilitate translation of competency expectations into practice. Framing competencies in the context of what physicians do in daily practice allows for assessments that align with observations in the clinical environment. Capturing real-time clinical observations and level of supervision to inform trainee progression over time can be challenging. This workshop will outline several initiatives related to electronic technology (e.g. mobile applications, ePortfolios, etc.) that can be used to capture and report this abundant data in a useful manner and minimize the administrative burden for faculty and students. This workshop will provide opportunities for audience members to discuss EPA implementation and reporting using technologies and outline a plan for using technologies successfully at their own institutions. Several mobile solutions will be demonstrated.

**Who Should Attend?** This workshop would be suitable for any attendee interested in EPA implementation and reporting.

**Structure of Workshop:** This workshop will be very interactive with the majority of the time spent sharing advanced technologies and discussing/analyzing what works and what doesn't, advantages/disadvantages, etc. The audience will have the opportunity to share their experiences and use one of the technologies.

**Workshop Outline:**

1. Introductions- 10 minutes
2. Flow of WBA for EPAs and how technology might change to suite the type of assessment- 15 minutes
3. Example and Discussion of Technologies from Utrecht- 10 minutes
4. Example and Discussion of Technologies from WVSOM- 10 minutes
5. Live data collection and reporting with audience; participants will rate each other, give dictated feedback and see the aggregated data in a dashboard - 20 minutes
6. Discussion and outline of own institutional plan- 10 minutes
7. Questions and Wrap-Up- 15 minutes

#### Intended Outcomes:

1. Outline different types of assessment and how technology might change to suite the assessment type.
2. Describe mechanisms to enhance the flow of work-based assessments for EPAs using technology.
3. Review different technologies for capturing and reporting work-based assessment for EPAs.
4. Discuss advantages and disadvantages of different technologies.
5. Discuss the various components of an ePortfolio that make EPA assessment data useful and impactful.
6. Develop plans for using technology at own institutions.

**Level:** This workshop is suitable for all attendee levels.

## #3Y Conference Workshop

3Y (559)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.17, Level 2

### How we used threshold theory to address challenges in under and postgraduate training

#### PRESENTER(S):

- Ralph Pinnock, Otago University, New Zealand
- Anne O'Callaghan, Hospital Palliative Care Service, Auckland District Health Board, New Zealand
- Katherine Hall, Department of General Practice, Otago Medical School, New Zealand
- Louise Young, College of Medicine and Dentistry, James Cook University, Australia

#### ABSTRACT

**Background:** Threshold concepts and skills are novel and important ways of thinking and performing in a discipline. Until these are mastered students are unable to progress. Threshold concepts and skills are transformative, troublesome initially when students are first exposed to them, require integration of recently acquired with previously acquired knowledge and are mastered by repeated practice under supervision. Identifying threshold concepts and skills in the clinical environment must involve students. Though threshold theory has been developed in many areas of tertiary education it has only recently attracted attention in medical education. The presenters have published on threshold concepts and skills in both under and postgraduate training.

**Who Should Attend?** Clinical teachers who are interested in seeking new ways of responding to the challenges of teaching in their daily clinical practice. Participants are encouraged to bring examples of topics and situations from their environment. Where do your students particularly struggle and might benefit from a new teaching approach?

**Structure of Workshop:** The workshop will

- Enable participants to identify a learning experience that has been a threshold concept for them
- Demonstrate the features of threshold concepts and skills that have been identified within threshold concept theory
- Explain the pivotal role that students play in the identification of threshold concepts and skills
- Explore how threshold concepts were identified and introduced into a postgraduate training course in palliative care and into an undergraduate course in clinical reasoning
- Support participants with tools to identify threshold concepts in their own clinical practice.
- Explore the strengths and limitations of threshold theory in medical education.

**Intended Outcomes:** Workshop participants will be able to:

1. Identify and describe threshold concepts in medical education
2. Apply threshold concepts in their teaching in medical education

**Level:** All

## #3Z Conference Workshop

3Z (1695)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.44, Level 2

### Context is Critical: exploring pedagogies of place in health professions education

#### PRESENTER(S):

- Roger Strasser, Northern Ontario School of Medicine, Canada
- Ian Couper, Ukwanda Centre for Rural Health, Faculty of Medicine and Health Sciences, Stellenbosch University, South Africa
- Rachel Ellaway, Office of Health and Medical Education Scholarship, University of Calgary, Canada
- Paul Worley, Prideaux Centre for Health Professions Education Research, Flinders University, Australia
- Susan Van Schalkwyk, Centre for Health Professions Education, Faculty of Medicine and Health Sciences, Stellenbosch, South Africa
- Clare Morris, Institute of Health Sciences Education, Queen Mary University of London, UK

#### ABSTRACT

**Background:** Context in health professions education (HPE) is a threshold concept, which has the potential to catalyse transformative learning. Gruenewald proposes a critical pedagogy of place, an idea that has been underexplored in HPE. We need to acknowledge contexts role in learning, and challenge the idea that knowledge is context-independent. Bates et al suggest that, while it is 'intrinsic to the field of medical education, the concept of context remains troubling to scholars and those running medical education programmes'. Awareness of the 'pedagogy of place' can help guard against practices being directed solely from a single (dominant) position, thus being responsive to the needs and dynamics of different contexts. In this workshop, we will explore perspectives on HPE from a range of different contexts guided by principles of social accountability and community engagement, and discuss why context matters in our teaching practice.

**Who Should Attend?** Educators and students with an interest in the role of context in HPE (undergraduate and postgraduate) across professional groupings, from any region or geographic area.

#### Structure of Workshop:

1. Introductions
2. Brief inputs: • Ian Couper - Overview of context in HPE • Rachel Ellaway - Key theories of context • Roger Strasser - The NOSM experience • Paul Worley - The Flinders network • Susan van Schalkwyk - The Stellenbosch University Rural Clinical School longitudinal study. • Clare Morris - Institute of Health Sciences Education, Queen Mary University of London.
3. Small group discussions will focus on the following: • What is important in participants' contexts and how that shapes teaching and learning; • How these contexts can be utilised more effectively for learning and in addressing social accountability issues; • How to use the lenses of social accountability and community engagement to support context-focused innovation, evaluation, and research in HPE
4. Plenary feedback

**Intended Outcomes:** By the end of this session participants will:

- describe the critical role of context in HPE and its value in their own context;
- outline the value of 'place' when developing curricula, particularly for clinical training;
- be able to plan research to evaluate context, taking into account their local program and societal needs.

**Level:** Intermediate



## #3AA Conference Workshop

### 3AA (1040)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.61, Level 2

## Serious Games Development & Implementation in Health Professions Education

### PRESENTER(S):

- Todd Chang, Children's Hospital Los Angeles & Keck School of Medicine, University of Southern California, USA
- Elizabeth Kachur, Medical Education Development Global Consulting, USA
- Gerald Stapleton, University of Illinois at Chicago, USA
- Chaoyan Dong, Sengkang General Hospital, Singapore
- Martin Pusic, New York University Langone Health, USA

### ABSTRACT

**Background:** Games - in any format - are frequently used as adjuncts to education. Theoretical frameworks of how games provide learning transfer and successful game elements have been described, though far less so within health professions education and adult learners. The workshop provides both a theoretical framework of game design as it pertains to health professions education, as well as a practical discussion on how to develop and implement games into a curriculum.

**Who Should Attend?** Undergraduate Health Professions Educators, Postgraduate Medical Educators, Instructional Designers, Simulation Enthusiasts. Participants with game ideas or prior game development are encouraged to share their experiences

#### Structure of Workshop:

10min Lecture: Introduction and overview of Games in Health Professions Education. Following introductions, we present the variety of games and examples in the literature.

20min Discussion: Theoretical Frameworks on Game Elements in Education. We present Garri's game elements, Gees Game mechanics, and Bedwell's taxonomy of game elements. Concrete examples are also provided.

30min Small Group Problem Solving: Design a Game to teach a difficult concept. In small groups of 3 - 4, each group is required to design a game to teach 1 of 4 difficult concepts in medicine. They will choose the most appropriate game elements and style of play, and the modality.

20min Small Group Problem Solving: Plan the Implementation of the Game. Small groups return to write an implementation plan, including intended audience, and which curricula to integrate the game, as well as an assessment plan.

10min Discussion: Summary and Take-Home Points

#### Intended Outcomes:

1. Learners will list types of games and game elements used in medical education, with examples
2. Learners will design a game tailored to a concept, objective, and target audience
3. Learners will develop an implementation & evaluation plan for their game

**Level:** Beginner to Intermediate. Some exposure to games & simulation in education is helpful, but not required.

## #3BB Conference Workshop

### 3BB (2005)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.83, Level 2

### Development of Situational Judgement Test Approaches for Selection, Development & Assessment

#### PRESENTER(S):

- Emma-Louise Rowe, Work Psychology Group, UK
- Máire Kerrin, Work Psychology Group, UK
- Victoria Roe, Work Psychology Group, UK
- Fiona Patterson, Work Psychology Group, Derby, UK

#### ABSTRACT

**Background:** Situational Judgement Tests (SJTs) are a measurement methodology designed to assess non-academic attributes relevant to a target role. SJTs are becoming increasingly popular within healthcare, in both selection and education contexts. Within selection, there is now a wealth of validity evidence for their use, not only within medicine but for other healthcare roles (dentistry, pharmacy etc.) In recent years there has also been a renewed interest in the use of SJTs for in-training formative assessment, particularly in the development context. Formative assessments that seek to develop professional skills for trainees can be challenging and costly to implement. Using a scenario based approach can enhance individuals' knowledge of effective behaviours and attitudes at work relating to, for example, resilience and empathy. Through self-reflection and personalised feedback, trainees can be supported in the development of these important non-academic attributes.

**Who Should Attend?** This workshop is relevant for all who are interested in selection into medicine and other healthcare professions, specifically, anyone who is interested in the assessment of non-academic attributes and keen to understand more about a Situational Judgement Test approach.

**Structure of Workshop:** To begin, delegates will be provided with the latest research evidence regarding SJTs, before discussing some of the key principles in SJT design, implementation and evaluation. This will include considering both the practicality and implications of text versus video-based approaches. For the second half of the session, delegates will have the opportunity to develop their own scenarios and receive expert feedback and guidance. This may also include where they could implement an SJT within their own course/institution.

#### Intended Outcomes:

- Understand the latest research evidence regarding selection processes within healthcare, including evidence for Situational Judgement Tests.
- Understand the possible approaches to assessing non-academic attributes at the point of selection.
- To gain knowledge in best practice Situational Judgement Test item writing principles.
- Understand how Situational Judgement Tests can be used for selection, assessment and development within healthcare
- Have the opportunity to develop own Situational Judgement Test items, receiving feedback on approach from facilitators

**Level:** Introductory

## #3CC Conference Workshop

### 3CC (3118)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.95, Level 2

### Virtual/Augmented/Mixed reality and the new hologram based reality... What are the prospects in MedEd?

#### PRESENTER(S):

- Panagiotis Bamidis, Aristotle University of Thessaloniki, Greece, & Leeds Institute of Medical Education, University of Leeds, UK
- James Pickering, University of Leeds, UK
- Evdokimos Konstantinidis, Aristotle University of Thessaloniki, Greece
- Panagiotis Antoniou, Aristotle University of Thessaloniki, Greece

#### ABSTRACT

**Background:** Diffusing innovation into medical education is a continuous process. The emergence of cutting-edge digital media, such as Augmented, Virtual, and Mixed Reality (AR/VR/MR), as well as the more futuristic Hologram based reality offer new challenges for enhancing the curriculum content.. This workshop will expose such already created learning resources to support the teaching of specific modules in medical education. More specifically, neuroanatomy, in one hand, and elderly healthcare and practice on the other. These two contents are created in two different modes: (a) the Hololens approach (used in Leeds Medical School Neuroanatomy course) and (b) the holographic micro-projector approach (used in the CAPTAIN H2020 project). This will provide participants an opportunity to interact with the novel technology and discuss the logisitics (both positive and negative) or developing and exploiting such resources. The workshop therefore aims to provide participants to interact with a cutting edge resource but also openly discuss the implications of integrating such a resource into the curricula along three themes. 1) how difficult and expensive is it to develop such resources? 2) why does medical education need to utilise such resources, 3) how is such a resource best integrated.

**Who Should Attend?** 1. Medical educators and teachers 2. Medical innovators and technologists 4. Curriculum developers

#### Structure of Workshop:

1. Presentation - Introduction to the development of a virtual reality learning tools
2. Activity - Time to experience and use the two virtual reality learning tools
3. Discussion - answering the why, when and how questions to integrate a VR tool into medical education
4. Group discussion and opportunities for networking

**Intended Outcomes:** By the end of this workshop, participants will be able to:

- familiarise themselves with a novel virtual Reality learning tools
- discuss and share ideas of developing such tools that require a diverse range of stakeholders, including educators, students, developers and project managers
- discuss the logistics (positive and negative) of integrating a resource of this type into a medical programme discuss and share approaches to its effective evaluation, implementation and future directions
- network with likeminded colleagues and initiate interdisciplinary collaborations and future projects

**Level:** Introductory

## #3DD ePosters - Communication

### 3DD01 (1051)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### “We just want realism don’t we?” A focus group exploration into student perception of the use of simulated patients in clinical communication skills training

#### AUTHOR(S):

- Diane Owen, Swansea University Medical School, UK (Presenter)

#### ABSTRACT

**Background:** Consultation and communication skills learning for most medical students involves interviewing Simulated Patients (SP's). While evidence abounds that this is effective, little research exists as to student perception of the role of SP's and their attitudes toward them.

**Summary of Work:** A qualitative focus group study was conducted, with students in the second and third years of the medical undergraduate course at Swansea University Medical School. Their views of SP's were analysed by thematic analysis of the data obtained.

**Summary of Results:** Students consider these interactions to be useful to their learning, however they do regard them as false and 'not really a true representation' of the clinical encounters they have with patients. They find the simulated encounters safe and less stressful than real life encounters, and feel as if they have the licence to 'mess up', try different techniques, and in so doing find that their confidence in the process increases. Students discussed the importance of verbal interaction and rapport, but felt at times that they also were acting a role in front of others and any empathy conveyed was impeded by the perception that it was false and dishonest. This resulted in a perception that empathy and other emotions may be easily faked in the clinical setting. Students also spoke about factors which they feel are effective in making simulated encounters more akin to the real life clinical setting.

**Discussion and Conclusions:** However we try to increase realism in class, the students recognise the falseness of the situation and change their behaviour in response, many times intentionally. Despite being aware of the limitations of interviewing in this way, they actively engage with the learning process, experiment, and feel that they learn important skills from it. The simulation and real life experiences are different but effectively complement each other in the learning process.

**Take-home Messages:** Students outline requirements that should be considered to increase the effectiveness of these encounters.

## #3DD ePosters - Communication

### 3DD02 (1524)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Evaluation of the attitude of students from medical faculties of the Medical University of Warsaw and University of Basel towards the development of communication competence

#### AUTHOR(S):

- **Mariusz Panczyk, Medical University of Warsaw, Poland (Presenter)**
- Lucyna Iwanow, Medical University of Warsaw, Poland
- Mariusz Jaworski, Medical University of Warsaw, Poland
- Joanna Gotlib, Medical University of Warsaw, Poland

#### ABSTRACT

**Background:** Modern medical education should not only strengthen communication skills, but should also be adapted to the current health care system; for example, the system of medical care in Switzerland, which is based on private benefits. The opposite of the Swiss system is the system of state health care, which dominates, for example, in Poland.

**Summary of Work:** In connection with different health care systems, a study was designed to assess the attitudes of medical students towards shaping communication skills depending on the prevailing health care system - private (Switzerland) or state (Poland). Study covered a population of 261 students from the Medical University of Warsaw (MUW), Poland and University of Basel (UB), Switzerland. A voluntary and anonymous survey was carried out using a standardised CSAS questionnaire, consisting of 26 items presented in two subscales - positive (PAS) and negative (NAS).

**Summary of Results:** Polish and Swiss students presented a neutral attitude towards learning communication skills and towards their own skills in this area. At the same time, the attitudes of UB students were slightly more positive than those of MUW students (UB: 90.4/130 versus MUW: 88.9/130,  $t = 2.555$ ,  $p = 0.011$ ).

**Discussion and Conclusions:** The obtained result confirms the validity of the implementation of elements of work in groups made up by students of various majors in an early stage of study. Shaping a positive attitude towards the acquisition of communication skills can be achieved by using the Social Learning Theory (SLT) in practice. The SLT was developed by Bandura. According to this concept, using observations and direct experience, students can demonstrate the importance of communication skills in clinical practice. However, in order for modelling learning to have a positive effect, tutoring-based teaching should be introduced. Tutoring is a didactic method based on not only developing communication skills in direct contact, but also strengthening the creativity for students' independence.

**Take-home Messages:** The educational process will be able to strengthen positive attitudes towards acquiring and improving communication skills among medical students.



## #3DD ePosters - Communication

### 3DD03 (1934)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Intern Satisfaction with Breaking Bad News Training

#### AUTHOR(S):

- **Mariana Searle, Universidad Andrés Bello, Chile (Presenter)**
- Verónica Silva, Universidad Andrés Bello, Chile
- Verónica Escobar, Universidad Andrés Bello, Chile
- Peter Mc Coll, Universidad Andrés Bello, Chile
- Carolina Perez, Universidad Andrés Bello, Chile
- Jessica Goset, Universidad Andrés Bello, Chile

#### ABSTRACT

**Background:** Breaking bad news training with simulated patients is a valuable teaching tool in medical education. Role rehearsal, self-reflection and acting upon feedback provided by peers and tutors, are activities best suited for a core skill that requires 'hands on' continuous practice and feedback to be acquired. Objective: Evaluate intern satisfaction with simulation applied to train bad news delivery, for 7th year interns, at Universidad Andrés Bello, Viña del Mar, Chile.

**Summary of Work:** Descriptive study with 80 interns (8 small groups), who consented to participate in a 4 hour workshop consisting of: communication role rehearsal with simulated patients (sensible loss, diagnosis of a life threatening illness), self-reflection, peer and tutor immediate feedback and previously assigned readings. Pre and post Likert type (1 to 5) tests were administered anonymously evaluating satisfaction with the learning process and methodology. Cronbach's Alpha and T test were used.

**Summary of Results:** Median post-test (4.36) results were meaningfully superior to pre-test (3.12) for all questions and total results ( $p < 0.001$ ). With respect to the learning process students valued: receiving immediate constructive feedback, simulated role rehearsals, acquiring 'practical' and theoretical knowledge on how to deliver bad news and to deal with emotionally challenging communication scenarios. Methodology median (4.85) was meaningfully superior to 3 points ( $t=63.25$  with  $p \leq 0.001$ ). Survey's internal consistency: Cronbach's Alpha 0.853.

**Discussion and Conclusions:** Simulation, immediate peer and tutor feedback, opportunities to self-reflect are key features as interns demonstrate their satisfaction with this breaking bad news training methodology. The experience to learn how to deliver bad news, which also entails handling highly emotional situations, although challenging for students who react to public exposure, is positively evaluated as it happens in real time, is not graded and interns can identify their personal strengths and weaknesses.

**Take-home Messages:** Communication skills constitute a permanent training need, although however understated as 'soft skills', should be explicitly taught through non-graded, progressively complex simulated scenarios throughout the medical career. Interns satisfaction with methodology demonstrated that bad news satisfactory delivery is a skill that can be best taught in 'protected' simulated scenarios.

## #3DD ePosters - Communication

### 3DD04 (2530)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### The teaching and assessment of triadic communication - a collaboration from 2 UK Medical Schools

#### AUTHOR(S):

- Rachel Williams, University of Cambridge, UK (Presenter)
- Deborah Critoph, University of Cambridge, UK
- Andrew Ward, University of Leicester, UK
- Rachel Westacott, University of Leicester, UK
- Nisha Dogra, University of Leicester, UK
- Diana Wood, University of Cambridge, UK

#### ABSTRACT

**Background:** Triadic consultations occur frequently in clinical practice but teaching in this area is rarely included within the medical students curriculum.

**Summary of Work:** In 2015, in response to student feedback requesting specific teaching in this area, a collaboration between Leicester and Cambridge Medical Schools led to the implementation of a teaching session for students, framed within authentic clinical scenarios. Learning objectives were set by student focus groups. In Leicester the teaching sits in the 2nd year, and in Cambridge the 4th year. Further collaboration (2018) led to the development of OSCE marking grids, to assess process skills for triadic communication. Examiners were trained according to local practice. OSCE stations incorporated 2 role players to simulate a triadic consultation in standardised format. Marking proforma were domain-based in both Schools and included elements such as the explicit introduction of both parties and attending to the agendas of both parties, whilst prioritising the patient. The process grid closely mapped to the learning objectives from the teaching session. Examiners were trained that students should not be scored above the pass in each domain, unless they explicitly demonstrated skills of triadic consultation.

**Summary of Results:** The teaching session has evaluated well with students and tutors in both schools since its introduction (overall satisfaction scores above 4.5 / 5). The triadic OSCE station demonstrated good reliability in both schools, with decreases in the overall Cronbach's alpha for both OSCEs when the triadic station was removed from the analysis. Proforma scores and station pass marks were similar in both Schools. Fail rates were low (7% in Cambridge and 8% in Leicester) supporting efficacy of teaching.

**Discussion and Conclusions:** Triadic consultations form over 30% of clinical encounters and students should be provided with these skills as part of their routine training. We have shown that by collaborative working to generate resources, consensus on learning objectives and assessment can be agreed and implemented within 2 institutions in an effective way, despite students differing clinical experience.

**Take-home Messages:** Collaboration between institutions effectively generates novel teaching and assessment material which can be implemented across different institutions.

## #3DD ePosters - Communication

### 3DD05 (2546)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Does audio recording of a referral/consult in addition to a personalized feedback improve communication skills (A pilot study)?

#### AUTHOR(S):

- Khalid Bashir, Hamad Medical Corporation, Qatar (Presenter)
- Saleem Farook, Hamad Medical Corporation, Qatar
- Shahzad Anjum, Hamad Medical Corporation, Qatar
- Stephen Thomas, Hamad Medical Corporation, Qatar

#### ABSTRACT

**Background:** Appropriate communication is an indispensable skill and is endorsed as a core competency of resident education by the Accreditation Council for Graduate Medical Education. Appropriate and timely feedback is essential in improving communication skills. Unfortunately majority of the residents get inadequate feedback from the supervising faculty. The primary aim was to evaluate that an audio recording of a telephone consult to other specialty physicians in addition to a personalized feedback by the supervising faculty improve communication skills. The secondary aim was to gauge residents opinion about this approach.

**Summary of Work:** This was a pilot, prospective, mixed-method study that included 9 emergency medicine (EM) residents in current training program. From October to December 2018 one senior faculty (KB) with experience of giving feedback supervised the residents during normal clinical shifts. At the beginning of each clinical shift there was an agreement between the faculty and the resident to assist in improving communication skills as part of the 'shop floor' teaching. The telephone consult was directly observed by the supervising faculty and also audio recorded on the resident own smart phone. The direct personalized feedback was provided immediately after the consultation in a private area. The residents were asked to provide comments about this method of feedback.

**Summary of Results:** 12 residents agreed to participate but only 9 were able to complete the study. 3 others could not complete due to busy clinical areas. There were 2 female and 7 males. 8(out of 9) really liked this method of feedback 'eye opener', 'really helped me to reflect' and 8 of them of them would like to self-record some of their future consultations for self-improvement. While one resident felt she was extremely nervous and her communication skills was less than optimum due to direct observation and audio recording.

**Discussion and Conclusions:** Appropriate reinforcing and corrective feedback is important to improve the communication skills of residents. Audio recording of the consultation and personalized feedback may be useful in improving communication skills.

**Take-home Messages:** Audio recording is a useful tool and can complement direct feedback in improving communication skills.

## #3DD ePosters - Communication

### 3DD06 (2687)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### It's still challenging! - New concepts for training simulated patients (SP) in the art of giving feedback

#### AUTHOR(S):

- Susanne Lück, Charité Berlin, Simulated Patients Program, Germany (Presenter)
- Julia Freytag, Charité Berlin, Simulated Patients Program, Germany
- Peter Eberz, Charité Berlin, Simulated Patients Program, Germany
- Tanja Hitzblech, Charité Berlin, Simulated Patients Program, Germany

#### ABSTRACT

**Background:** Being able to give highly qualitative feedback is one of the most important skills an SP needs to support learning. Yet despite constant practice, SP still struggle sometimes to transfer the concepts into their daily work. That's why we developed additional training concepts with the goal of deepening feedback skills and focussing on particularly challenging parts of giving feedback.

**Summary of Work:** We developed two new training courses (4,5 hours each, two trainers, 10 SP) and offered each of them once by now: 1. 'Reflections: Self-assessment via video recordings' The first workshop aims to give the SP a better appraisal of their own strengths and weaknesses. It starts by discussing feedback standards and getting to know an assessment tool we use for quality assurance. Afterwards, SP analyse a video of themselves giving feedback. 2. 'The challenge of giving dialogic feedback' The goal of this presentation is to give the SP practical tools for creating a feedback dialog instead of giving a one-sided lecture. We use a variety of training methods to offer theoretical input and give the SP the chance to practice the tools in various communicational settings. In the end the participants evaluated the workshops on continuous scales and answered open questions.

**Summary of Results:** The participants' reaction to the new courses was overall very positive. After the first workshop SP stated they found it helpful to see themselves on camera and felt more comfortable in giving feedback. After the second workshop the SP claimed to feel better equipped to evoke a feedback dialog.

**Discussion and Conclusions:** Developing new training concepts requires resources, but SP are signalling a huge interest in new ways of practicing feedback. A quantitative evaluation of the courses is planned and additional workshops on topics like 'How attitude influences feedback' and 'feedback after emotionally charged interactions' are in development.

**Take-home Messages:** By offering a variety of training concepts, SP can be helped to overcome their difficulties in giving feedback and improve their skills. Giving feedback training courses on a regular basis also helps SP trainers to stay aware of the SPs' challenges.

## #3DD ePosters - Communication

### 3DD07 (2974)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

## A nationwide qualification program for peer tutors in training of communication skills

### AUTHOR(S):

- **Louisa Hecht, German Medical Students' Association (bvmd e.V.), Germany (Presenter)**
- Erika Fellmer-Drüg, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
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### ABSTRACT

**Background:** As the role of education in communication for medical students increases in recent times, educational services of trainings in this field equally do. Faculties have come out with communication courses in many different ways. Several of these services are based on peer-teaching. However, they differ in quality leading to heterogeneous communication skills amongst the graduates. To counter this issue a multifaceted communication training had been designed in 2015 by the Institute for Medical and Pharmaceutical Exam Items (IMPP), addressing the role of student tutors within the field of education in communication. The aim of this initiative is a national standardized qualification of student tutors for medical communication in content and didactics on a high quality level.

**Summary of Work:** Each year, about 20 tutors receive training within two three-day sessions by an experienced and multidisciplinary team of experts. The program consists of two basic units with lectures in didactics of medicine, fundamentals of communication, group-leading and doctor-patient communication skills. Overall, since the program has started, nine faculties in Germany served as cooperating hosts to perform these trainings. Additionally, graduates get the opportunity to sign up for a continuing qualification program to learn more about e.g. interprofessional communication and cooperation. In the end, the learning process will be evaluated by observations in peer tutor lessons, local supervision sessions and portfolio works of the students. In total, 200 class lessons are necessary to receive the national certificate.

**Summary of Results:** To picture a clear and profound impression of the project, we are not only characterizing the idea and realization of the concept but also performing a critical SWOT analysis of the qualification program. To gain a supplementary glimpse in the student perspective, we compile the main results of the participants' evaluation. A brief initial review already shows a highly positive response to the training.

**Discussion and Conclusions:** Many valuable experiences have been gathered throughout the course of the program. Pointing out the strengths and limitations of the program, as well as its threats and opportunities amidst current developments, can encourage similar upcoming ideas.

**Take-home Messages:** We would like to convey how to combine the resources of student tutorials with a high level education.



## #3DD ePosters - Communication

### 3DDo8 (3246)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Addressing the elephant in the room: Improving healthcare professionals' confidence and ability communicating in difficult scenarios

#### AUTHOR(S):

- Aira Beniusyte, South Tyneside NHS Foundation Trust, UK (Presenter)
- Riem Alkaissy, South Tyneside NHS Foundation Trust, UK
- Laura Murphy, South Tyneside NHS Foundation Trust, UK
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#### ABSTRACT

**Background:** In 2017-2018 hospital and community health services received 28,263 written complaints because the patient (or the patient's advocate) felt they did not receive the appropriate level of communication by healthcare professionals. A survey in this trust showed healthcare professionals did not feel confident in discussing end of life care, DNACPR, capacity and complaints. Capacity was cited as one of their weakest areas.

**Summary of Work:** A multidisciplinary team (MDT) communication simulation session was designed for healthcare professionals of varying levels of experience. Four scenarios centred on conversations with patients and their relatives regarding DNACPR decisions, end of life care, capacity and complaints. Each scenario lasted 10 minutes followed by a 25 minute discussion. Participants were surveyed before and after the session to establish their self-assessed confidence and ability in communicating in these four scenarios.

**Summary of Results:** Participants reported an increase in confidence for all areas. The results show a greatest increase in confidence in communication at end of life with an increase in self rated mean confidence and ability score (/5) from 2.6 to 4.5. Mean confidence and ability score increased from 3.2 to 4.7, 3.6 to 4.4 and 3.0 to 4.5 in DNACPR, capacity and complaints respectively. All participants reported they would make changes to their clinical practice based on what they had learnt in the session.

**Discussion and Conclusions:** The MDT communication session was successful with participants reporting an increase in confidence and ability in all topics covered in the session. Feedback also showed that all participants felt they would modify their clinical practice based on this experience, indicating that they felt there was practical benefit from attending the session.

**Take-home Messages:** There is concern that if healthcare professionals do not have confidence discussing these issues, they will avoid doing so, which would be detrimental to patient care, therefore, improving the communication skills are essential.

## #3DD ePosters - Communication

### 3DD09 (3271)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Dying: a Human Thing: An Initiative for Training Medical Undergraduates to Deliver Bad News at Universidade Federal do Rio Grande do Norte, Brazil

#### AUTHOR(S):

- **Diorgenes Santos, Universidade Federal of Rio Grande do Norte (UFRN), Brazil (Presenter)**
- Juliana Pimenta, Universidade Federal of Rio Grande do Norte (UFRN), Brazil
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- Simone Moreira, Universidade Federal of Rio Grande do Norte (UFRN), Brazil

#### ABSTRACT

**Background:** Throughout the world, most of the medical schools traditional curriculum experience a scarcity of formal instruction in bad news communication. Therefore, facing this worrisome reality, the university extension project 'Dying: A Human Thing' from Universidade Federal do Rio Grande do Norte (UFRN), Brazil, comes to address this issue. The main purpose is to provide to undergraduate students training in delivering bad news, allowing them to obtain this relevant skill which is essential to a great professional medical journey.

**Summary of Work:** The project accomplished semiannually and occurs in five theoretical-practical meetings, of which two use the Objective Structured Clinical Examination (OSCE) methodology to evaluate the ability to communicate bad news through simulated clinical situations, which were accomplished in university hospital outpatient clinics, with an evaluator and an actor for each of the 3 stations. Then there are the individual and collective feedbacks conducted by invited teachers. Between the practical moments, there is a theoretical qualification based on the SPIKES protocol. There are still two meetings focused on the termination of life with professionals from different areas.

**Summary of Results:** Between 2016 and 2018, the project reached 100 Brazilian medical students from different periods of the Universidade Federal do Rio Grande do Norte (UFRN). It is notable the professional maturation of the participants throughout the project, more confident as they get more lessons and practices. For the undergraduate coordinators, the learning is always remarkable and unique, given the considerable challenge of setting up two activities with great mobilization of resources and people.

**Discussion and Conclusions:** The making of communication competences in the academic environment is a challenging and inspiring activity, for technique and empathy at delivering bad news support relieving human suffering. On this regard, Dying consists of an innovative implement which must be improved and expanded, since it contributes substantially to the formation of more prepared and confident physicians at their tough roles with humanity and respect.

**Take-home Messages:** The Dying project is an example of how undergraduates can lead improvements on medical education, and strengthen communication skills of the future doctors.

## #3DD ePosters - Communication

### 3DD10 (3320)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### What is the role of the use of video recordings in medical education for the teaching of communication skills?

#### AUTHOR(S):

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- Carmen Daudt, UFCSPA, Brazil
- Melissa Fortes, UFCSPA, Brazil
- Vivian Duarte, GHC, Brazil

#### ABSTRACT

**Background:** Good doctor-patient communication is essential in clinical practice, and its importance is well established in the literature. Several tools have been developed for evaluation and teaching of communication skills. Video recording is a gold standard for communication teaching. The objective of the study is to map and analyze the role of the use of videorecordings for the teaching of communication skills in medical training.

**Summary of Work:** Integrative literature review based on 6 steps. Two databases were searched with the descriptions communication skills, medical education and videorecording. 26 articles were selected for analysis. An instrument for collecting data from the studies was developed. Subsequently, a qualitative analysis of the studies about the role of the use of videorecordings for the teaching of communication skills was carried out.

**Summary of Results:** Videorecordings were used as three different tools: teaching, summative evaluation and formative evaluation; in 14 studies were used as formative evaluation tool; 9, as summative evaluation; in 1 as both types of evaluations; and 2 as teaching.

**Discussion and Conclusions:** Traditionally, in the health area, evaluations have been done in a timely and objective way (summative evaluation). On the other hand, formative evaluation presupposes that the act of evaluating must be an integral part of the whole teaching-learning process, with feedback as a fundamental action in the process. Currently, it is believed that the ideal form of evaluation of students has complementarity of the two forms: formative and summative.

**Take-home Messages:** Video recordings should be widely used, as they allow the student to observe in practice, in addition to being analyzed continuously, at various moments in the teaching-learning process, thus becoming a great tool to be used.

## #3DD ePosters - Communication

### 3DD11 (3360)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Does Prior Performance Information Impact Feedback; Implications for Learner Handover?

#### AUTHOR(S):

- Timothy Wood, University of Ottawa, Canada (Presenter)
- Yousef Almuhanha, University of Ottawa, Canada
- Susan Humphrey-Murto, University of Ottawa, Canada
- Tammy Shaw, University of Ottawa, Canada
- Claire Touchie, University of Ottawa, Canada
- Debra Pugh, University of Ottawa, Canada

#### ABSTRACT

**Background:** Learner handover (LH) is the sharing of information about trainees between faculty supervisors involved in their education. With the move to competency-based education, longitudinal assessment and feedback are taking on a more important role. There have been concerns raised that LH may bias future assessment leading to inaccurate evaluations. Prior research on numeric scores has demonstrated assimilation i.e. there is bias toward the direction of the previous performance information (PPI) provided. There are currently no studies that examine the effect of LH on feedback. The purpose of this study is to examine the impact that indirect (indirect source) within-subject PPI has on narrative feedback.

**Summary of Work:** Participants (n=42) were randomly assigned to 3 groups (positive PPI, negative PPI or control group), where they viewed 6 videos of simulated clinical patient-resident encounters. The PPI was provided as written LH from the program director summarizing the resident's performance. Each rater completed a mini-CEX and was asked to provide comments. These narrative feedback comments will be coded using content analysis. Coding will include content (inductively developed) and valence (how positive or negative the comments were). Data analysis will compare the content and valence between the 3 groups, as well as determine the relationship between LH content and feedback content.

**Summary of Results:** Data analysis is ongoing to date. Content analysis is being conducted using NVivo 12. Narrative comments were categorized into communication, knowledge, humanism, physical examination, directive, organization, technical and overall clinical competence. Preliminary impression showed that the most commented on category was communication, followed by knowledge. These categories are further sub-grouped into positive, negative, neutral, and directive.

**Discussion and Conclusions:** Discussion and conclusions will be generated upon completing data analysis.

**Take-home Messages:** Sharing of information about the learner between faculty supervisors could potentially help guide feedback to enhance learning. Understanding how learner handover impacts the feedback is a first step in determining how best to implement this process.

## #3DD ePosters - Communication

### 3DD12 (3485)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Formation and Communication in Health Care

#### AUTHOR(S):

- Fernanda Novaes, FAIMER, Imip, Inss, Brasil (Presenter)
- Marcelo Ribeiro, UNIVASF, Brasil

#### ABSTRACT

**Background:** National and International Guidelines value teaching - learning methodologies that produce satisfaction during the professional formation in healthcare. The objective of this paper is to share the formative experience that integrates the fields of Health and Education.

**Summary of Work:** The educational experience has occurred in the elective subjective Communication in Healthcare offered by the course of Medicine and Interfaces Health and Education offered by the Psychology course. The point of convergence of the disciplines is the sense of caring from what we call living methodology in the formation process. This approach prioritizes life histories, ludic classes, relationships in the classroom, and previous experiences. The work involves undergraduate students in the healthcare area. The educational choreography includes 10 steps: 1-Class Project, 2-Discussion Circle, 3-Reflection, 4-Categorization, 5-Articles, 6-Integrative Dynamics, 7-DocCom.Brasil, 8-Student Videos, 9-Dramatization, 10-Conclusion with Art.

**Summary of Results:** The record of the experience on Formation and Communication in Health Care, it was observed that the training process is closely associated with the issue of care / self-care as fundamental for professional development. Life and care stories have indicated that students have neglected self-care or perceived that the university context has been less sensitive to care relationships and how much this impacts on the quality of professional formation. In relation to life histories, the students reveal that they understand that the educational processes are integrated with those of health so that one does not happen without another. Finally, the students indicated that these reflections occurred because the teachers conducted the classes and valued the experiences and reflections.

**Discussion and Conclusions:** The Living Methodology creates conditions for self-care and care, which is a convergent theme between health and education. Kirkpatrick's program evaluation revealed good results at level 1, satisfaction, demonstrated by the increased number of participants.

**Take-home Messages:** This experiences help to think better about the professional formation in health care.



## #3DD ePosters - Communication

### 3DD13 (63)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Virtual Reality - a Novel Approach to Teach Communication and Collaboration Competencies in Undergraduate Medical Education: An Experimental Study

#### AUTHOR(S):

- **Lama Sultan, King Abdulaziz Medical City, Saudi Arabia (Presenter)**
- Wesam Abuznadah, King Abdulaziz Medical City, Saudi Arabia
- Hatim Al-Jifree, King Abdulaziz Medical City, Saudi Arabia
- Muhammad Anwar Khan, King Abdulaziz Medical City, Saudi Arabia
- Basim Alsaywid, King Abdulaziz Medical City, Saudi Arabia
- Faisal Ashour, King Abdulaziz Medical City, Saudi Arabia

#### ABSTRACT

**Background:** Undergraduate medical education is constantly evolving with curricular shift from simple knowledge acquisition to competency-based medical education. According to SaudiMED, communication and collaboration is the core domain. Literature shows that repeated practice followed by feedback is mandatory for behavioral changes. Nowadays, we live in the era of digital natives generations; different technologies can be used to cope with them, such as Virtual Reality which supports experiential learning by Kolbs.

**Summary of Work:** Experimental study was conducted where 4th year medical students participated in a workshop. They were divided into two groups according to the educational tool: group one utilized 360° virtual reality videos and group two utilized interactive lectures. The outcome factors were all quantitative variables: Perception level (a questionnaire was given before the session), MCQs score (20 MCQs pre and post session to assess knowledge retention), OSCE score (to assess skill acquisitions), satisfaction level (a questionnaire was given after VR session), All the 169 (male and female) medical students were included in the study.

**Summary of Results:** The response rate was 88% for 169 participants, 57 (VR) and 112 (Lecture). Majority of students (93%) think that VR can be used in medical education. Post MCQs score (out of 20) was significantly higher in VR group when compared to the lecture group (17.4±2.1 vs. 15.9±2.9, p-value <0.001). The OSCE score was also better with VR group (12.9±4.1 vs. 9.8±4.2, p-value <0.001). Overall rating of VR satisfaction experience showed a mean of 7.26 out of 10.

**Discussion and Conclusions:** Virtual Reality provides a rich, interactive, engaging educational context, thus supporting experiential learning-by doing. In fact, it raises interest and motivation for student and effectively supports knowledge retention and skills acquisition.

**Take-home Messages:** Health professional educators might look into integrating Virtual Reality technology in medical curriculums in order to make the material more interesting, easier to learn and to adapt to the new generations' needs. Also, Virtual Reality could play a role in interprofessional education to allow undergraduate health professions learn about each other roles to improve collaboration and communication skills for a better health care delivery accomplishing Saudi Vision 2030.

## #3EE ePosters - Workplace Based Learning

### 3EE01 (117)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Are there differences between student performance after rotations at tertiary and community Emergency Medicine teaching sites?

#### AUTHOR(S):

- Carolyn Rotenberg, Dalhousie Medical School, Canada (Presenter)
- Simon Field, Dalhousie Medical School, Canada

#### ABSTRACT

**Background:** Undergraduate medical Emergency Medicine (EM) rotations are often completed at either tertiary care centres or regional community hospitals. While the latter offer students exposure to different practice settings and population needs, many students perceive that teaching at tertiary care EM departments is superior to that in community hospitals. At our institution, third year undergraduate medical students complete a three-week EM rotation at either a tertiary centre or a community hospital. We compared academic and clinical performance between students trained in these settings.

**Summary of Work:** Academic performance in EM was evaluated based on the results of an EM-specific multiple-choice examination (MCQE). The 40-question MCQE is administered quarterly and includes both old and new questions to ensure consistency. Clinical performance was evaluated using an annual Objective Structured Clinical Exam (OSCE) assessing competency in a range of clinical scenarios commonly addressed in EM. The OSCE is a validated assessment tool scored on a pass/fail basis. We reviewed MCQE and OSCE scores from three consecutive cohorts of students. Students were pooled into two groups, tertiary and community, based on their EM training site. Mean MCQE and OSCE performance were compared between groups using two-tailed unpaired T tests. Chi squared tests were used to identify significant differences in scores between cohorts.

**Summary of Results:** MCQE and OSCE scores from 312 students over three consecutive cohorts were analyzed. Cohorts included 104, 100, and 108 students with 61 trained in tertiary centres (N=191). Students trained in tertiary centres had a mean MCQE score of 77%. Students from community centres had a mean score of 78%. There was no significant difference in MCQE scores between groups ( $p=0.6099$ ). The OSCE pass rate was 97% for students trained in tertiary centres and 98% for students trained in community centres. OSCE pass rates were not significantly different between groups ( $p=0.8145$ ).

**Discussion and Conclusions:** There was no significant difference in MCQE and OSCE performance between medical students training in tertiary and community hospitals.

**Take-home Messages:** Despite student perceptions that training in tertiary care EM centres was superior, objective analysis showed similar academic and clinical performance regardless of training site.

## #3EE ePosters - Workplace Based Learning

### 3EE02 (1331)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Assessment of the Clinical Pharmacology Domain of Veterinary Students in a Clinical Workplace: A Grounded Theory Approach for Development of a Cognitive Framework

#### AUTHOR(S):

- Paul Gordon-Ross, Western University of Health Science, USA (Presenter)
- Jennifer Buur, Western University of Health Sciences, USA
- Martina Haupt, Western University of Health Sciences, USA
- Peggy Barr, Western University of Health Sciences, USA

#### ABSTRACT

**Background:** The Entrustable Professional Activity (EPA) of Patient Management includes the clinical pharmacology domain. Within this domain students are expected to synthesize and apply basic and clinical pharmacology knowledge and skills as they progress through clinical instruction. In a distributive model of clinical education, the assessment of trainees is often performed by third party clinical instructors who may not be trained to assess specific domains like clinical pharmacology. We designed this study to determine how clinical instructors evaluate learners during clerkships, when considering EPA-specific domains like clinical pharmacology.

**Summary of Work:** The paucity of specific milestone data made review of the clinical pharmacology domain and its corresponding milestones impossible; thus, the purpose of this study is to fill in the gaps by developing a cognitive framework to explain the decision-making process of clinical instructors when they are assessing Year 3 students in the clinical pharmacology domain. Using a modified systematic grounded theory approach, we conducted and analyzed semi-structured interviews with third party clinical instructors in a Year 3 veterinary curriculum. Transcribed interviews were coded, and emergent themes were discussed and refined until a cognitive framework was reached.

**Summary of Results:** Clinical instructors predominantly use question-answer sessions of various formats to evaluate the knowledge, skills and attitudes of students. Previous student experience both within and between clerkships feed back into the assessment process. Clinical instructors assess students often while simultaneously teaching clinical pharmacology content.

**Discussion and Conclusions:** We developed a cognitive framework to explain how clinical instructors assess students in the clinical pharmacology domain. This cognitive framework is applicable in a variety of clinical contexts and is likely to apply broadly to many clinical domains and across the spectrum of professional health care curricula.

**Take-home Messages:** Clinical instructors rely heavily on question-answer sessions with students when assessing the clinical pharmacology domain of the Patient Management EPA. Clinical instructors base their assessment on a combination of student knowledge, clinical skill, and attitude. Assessment opportunities are often intimately associated with teaching opportunities in the clinical setting, making it difficult for the clinical instructor to differentiate between the two modalities.

## #3EE ePosters - Workplace Based Learning

### 3EE03 (1477)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Service, clinical exposure and clinical department influence on House Officers (HO) / Post Graduate Year 1s (PGY1) training satisfaction

#### AUTHOR(S):

- Swee Han Lim, SingHealth, Singapore (Presenter)
- Joseph Li, SingHealth, Singapore
- Choon Pooh Heng, SingHealth, Singapore

#### ABSTRACT

**Background:** HOs/PGY1s rotate through 3 x 4-monthly postings to the departments of Internal Medicine (compulsory), General Surgery and/or Orthopedics (1 compulsory surgical posting), O&G or Pediatrics. We experience fluctuation in number of PGY1s allocated to various departments throughout the academic year 2017. We aimed to elucidate factors that influence HOs/PGY1s training satisfaction to further improve our training program.

**Summary of Work:** A standardized HO/PGY1 rotation evaluation form with 50 questions was administered to all HOs/PGY1s through an online learning management system (New Innovations) at the end of their postings between May 2017 and June 2018. The evaluation form assessed factors such as duty hours, faculty supervision and education activities. Rotation evaluation results across training institutes and disciplines were compared. The data was analyzed using IBM SPSS Statistics software.

**Summary of Results:** 406 PGY1s responded to the evaluation. We found that there were no differences in the PGY1 posting evaluation results between HOs/PGY1s who graduated from local medical schools and those who graduated from overseas medical schools, as well as between HOs/PGY1s who were rotated in the same Sponsoring Institute for the entire PGY1 year and those who had rotations in other Sponsoring Institutes. The satisfaction level of Discipline D (anonymized discipline) from Training Institute 3 (anonymized Institute) was significantly lower than Discipline D in Training Institute 1 (anonymized Institute).

**Discussion and Conclusions:** The data shows that the HOs/PGY1s were less satisfied with their posting experience in their 3rd posting compared to their 1st posting. The satisfaction level of Discipline D from Training Institute 3 was significantly lower than Discipline D in Training Institute 1. A focus group discussion has been scheduled to identify the differences between Training Institute 1 and Training Institute 3. We will remove the rotation evaluation forms question 10 and 11 from future studies, as they are not significant.

**Take-home Messages:** We need to identify the factors that caused the satisfaction level of Discipline D from Training Institute 3 to be significantly lower than Discipline D in Training Institute 1, so as to further improve our training program.

## #3EE ePosters - Workplace Based Learning

### 3EE04 (1586)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Singapore Neuroimmunology Rounds - developing a Community of Practice for education and improved management of neuroimmune disorders

#### AUTHOR(S):

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- Sing Yee Hoh, KK Womens & Childrens Hospital, Singapore
- Kevin Tan, National Neuroscience Institute, Singapore
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- Amy Quek, National University Hospital, Singapore
- Derek Soon, National University Hospital, Singapore

#### ABSTRACT

**Background:** A Community of Practice (CoP) is a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Beverly & Etienne Wenger-Trayner.) This aptly describes a group of Singaporean neurologists and nurses who started with ad hoc neuroimmune case discussions and decided to continue meeting up.

**Summary of Work:** Objective: To describe Singapore Neuroimmunology Rounds as a community of practice and its benefits to treatment, education and collaboration. Methods: Descriptive analysis of our experience with the evolution and development of the Singapore Neuroimmunology Rounds.

**Summary of Results:** Rounds have been occurring every two months since end 2013. These were initially informal case discussions involving a few neurologists. Since then they have evolved to organised grand rounds, rotating between 5 specialist hospitals. Average group attendance now is 15-20 people with paediatric and adult neurologists, trainees, nurses and ophthalmologists represented. Cases include but are not limited to multiple sclerosis (MS), neuromyelitis optica (NMO) and autoimmune encephalitis.

**Discussion and Conclusions:** Benefits of CoP have included tackling complex diagnostic and management cases with collective group wisdom, sharing patient safety and treatment protocols. Interprofessional education opportunities spawned naturally - eg neuroscience nurse-led education meetings. Innovations in practice have been shared such as MS care quality and addressing fatigue in NMO and MS. Peer review has evolved into best practice as a Community. Just as Wenger describes, we continue growing as a Community of Practice - this group of people who share a passion for neuroimmunology and are learning how to do it better as we interact regularly.

**Take-home Messages:** For complex, multi-discipline neuroimmune disorders, a Community of Practice is a very good model for enhancing education Combining deliberate organisation and spontaneous growth is the most beneficial A community of practice fosters interprofessional education.



## #3EE ePosters - Workplace Based Learning

### 3EE05 (1761)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### An evaluation of an introductory integrated clerkship in a new medical college in the Middle East: What are the perceived barriers to clinical learning?

#### AUTHOR(S):

- Alison Carr, Qatar University College of Medicine, Qatar (Presenter)
- Ayad Al-Moslih, Qatar University, Qatar
- Tanya Kane, Qatar University, Qatar
- Suhad Daher-Nashif, Qatar University, Qatar
- Banan Al Arab, Qatar University, Qatar
- Suzannah Hart, Qatar University, Qatar

#### ABSTRACT

**Background:** In 2019 our first cohort of 46 medical students entered an integrated introductory clerkship in medicine and surgery in 2 district general hospitals in year 4 of a 6 year program. Neither hospital has previously regularly taught medical students. The clerkship was designed to gain familiarity with the hospital setting and services for patients and encourage students to clerk and learn from patients. In preparation for clinical care, students attended regular clinical placements (2-3 hours) in the primary health centres since year 2 and completed a weekly comprehensive clinical skills program.

**Summary of Work:** To better understand challenges faced on embarking on clinical experiential learning in hospital placements, we performed a detailed evaluation (questionnaire and focus groups) early (two weeks after introducing the clerkships) and at the end of the 14 week clerkships. We surveyed students about the perceived barriers to clinical learning in the hospital setting.

**Summary of Results:** A preliminary early evaluation completed by 24/46 students to date showed placements support learning about clinical care, multidisciplinary teams, the management of common clinical problems and ethical and professional dilemmas. 67%, 54% and 67% felt hospital placements had already improved their history taking, physical examination and clinical reasoning skills respectively. Preliminary results indicate the main perceived barriers to learning about clinical care were: Doctors too busy to teach (54%); doctors not seeming interested in students' learning needs (33%), a lack of understanding of clinical medicine at this stage (63%); and learning outcomes being unclear (83%). In addition, 63% reported at least one of shyness, embarrassment in talking to patients, lack of assertiveness at gaining learning opportunities and/or preferring to learn from doctors.

**Discussion and Conclusions:** Early feedback on hospital clinical placements in a new medical program is useful to allow proactive input into improving hospital clinical experience as the program evolves. We have identified early that students' personal qualities and perceptions are additional important areas requiring support.

**Take-home Messages:** Introducing a clerkship in a new medical program in the Middle East requires attention to the core elements and support for students transitioning into learning in the clinical environment.

## #3EE ePosters - Workplace Based Learning

### 3EE06 (1888)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

## A Study on the Value of Clinical Attachments in Enhancing the Competency of Medics

### AUTHOR(S):

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- Kaihui Colin Tan, Singapore Armed Forces Medical Training Institute, Singapore

### ABSTRACT

**Background:** A pilot quasi-experimental study was conducted by the Singapore Armed Forces Medical Training Institute (SMTI) to examine the value of cross-attachment of Emergency Medical Technicians (EMTs) to the National Emergency Ambulance Service (EAS) operated by the Singapore Civil Defence Force. As EMTs do not undergo clinical attachments during the course of their training, this study serves to elicit the value of such unstructured clinical attachments in enhancing the clinical competency of medics.

**Summary of Work:** 10 EMTs (treatment group) who recently completed their training in SMTI were selected to participate in a 12-week on-job-training attachment to the National EAS, where they will function as part of the ambulance crew. A further 10 medics (control group) were matched to the treatment group and underwent routine deployment in military medical centres over the same period. All participants underwent the same pre- and post-attachment tests consisting of a theory test, a medical emergency practical test and a trauma emergency practical test designed specifically for the study. They were also provided with a logbook to record the number and type of cases encountered during their attachment. Data was analysed using statistical techniques.

**Summary of Results:** Pre-attachment scores between the two groups showed no significant differences, which demonstrated adequate matching. At the end of the study period, the treatment group performed significantly better than the control group in the trauma emergency practical test ( $p=.014$ ) and medical emergency practical test ( $p=.030$ ). The control group demonstrated no significant differences in test results at the end of the study period. The study also revealed that the treatment group was exposed to a significantly larger number of cases during the study period ( $p=.00018$ ).

**Discussion and Conclusions:** This study indicates that the attachment programme significantly contributes to the EMTs performance in emergency scenarios. Further experimental research with a larger sample size and randomized selection design would be essential to provide more insights. Regardless, the study provides strong justification for clinical attachments to be included as part of the EMT's training, and is an excellent example of evidence-based policy decision-making applied in the military medicine context.

**Take-home Messages:** Clinical attachments expose trainees to various emergency scenarios and therefore, optimise their clinical performance.

## #3EE ePosters - Workplace Based Learning

3EE07 (2029)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Challenges of designing and implementing teaching rounds in the emergency department: A survey of Chinese Emergency Medicine attending physicians

#### AUTHOR(S):

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- Jiangshan Wang, Department of Emergency Medicine, Peking Union Medical College Hospital, China
- Li Li, ShenZhen Municipal Health Commission, China

#### ABSTRACT

**Background:** Teaching round (TR) faces significant challenges in the emergency room (ER) due to the unique clinical environment and patient case mix. This study aimed to evaluate the confidence level and perceived challenges of emergency medicine (EM) attending physicians when designing and implementing TR in the ER.

**Summary of Work:** We distributed a pre-course survey to a cohort of EM attending physicians who enrolled in an educational TR workshop in the Peking Union Medical College Hospital (PUMCH). We examined consent participants of their confidence/perceived challenges in designing/conducting ER TR, and by baseline characteristics. We presented categorical measures in raw counts and percentages with the Fisher's exact test used for statistical significance test.

**Summary of Results:** The workshop enrolled 64 EM attending physicians (30 hospitals) interested in improving bedside TR. 60/64 provided answers to the pre-course survey, with 88% from third-tier centers, 65% being age 36 or above, 50% female, 37% senior. Most physicians saw the benefit of TR for trainees (75%), however, less saw the benefit for patients (53%). Although most physicians had experienced TR as trainees (85%) or instructors/co-instructors (72%), only 33% had designed or felt confident in designing TR (17%). Top three frequently identified challenges were lack of formal training in design (63%), followed by lack of trainee participation (43%), and conflict with clinical work (32%). Senior physicians were more confident in designing and implementing TR than young and junior colleagues, and they had different perceived challenges in TR. However, we did not achieve statistical significance.

**Discussion and Conclusions:** Our survey has quantitatively evaluated Chinese EM attending physicians regarding the perceived value, challenges and confidence in design/conduct TR in EM. We identified the large knowledge gap in designing effective TR, and the commonly shared concern over TR's conflict with clinical work and lack of benefit for patients.

**Take-home Messages:** Most EM attending physicians in China are not equipped with the knowledge to design effective TR. While most of them see the great value of TR, they are also aware of the negative impact of TR on clinical work and patient benefit.

## #3EE ePosters - Workplace Based Learning

### 3EE08 (2540)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Evaluation of bedside teaching programme in surgical clerkship

#### AUTHOR(S):

- Samanchit Samakprakhon, Sunpasitthiprasong Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Bedside teaching is an important means to enhance student's clinical experience as well as psychosomatic skills. Group size and scenario learned are key success factors. There was a change in teaching ward round in the last 4 years, and this needed to be evaluated.

**Summary of Work:** In 2013-14, student morning ward rounds were carried out in a group of 14-16 4th year students led by a single instructor, while in 2015-16 word rounds were co-instructed by four different instructors on different rotation and a ward round group were reduced to four students. At the end of the clinical clerkship, the students assessed by MCQ and OSCE. We compared the MCQ/ OSCE scores between the students receiving different methods of teaching word round using Mann-Whitney-U test.

**Summary of Results:** There were 32 and 29 4th year students in Years 2013-14 and 2015-16 respectively. The two cohorts had comparable GPA. The mean MCQ score significantly increased from 89.43 to 93.03 ( $p=0.01$ ), while OSCE scores were not changed ( $p=0.31$ )

**Discussion and Conclusions:** Small group and exposure to different patients' conditions under supervision of different instructors helped enhance learning outcomes. Additionally, actively educating instructor is an importance factor of effectively bed side teaching and providing practical essential to the students.

## #3EE ePosters - Workplace Based Learning

### 3EE09 (2762)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Ward Round: Education Time or Punishment?

#### AUTHOR(S):

- Amy Woods, St George's University Hospitals NHS Foundation Trust, UK (Presenter)
- Holly Emms, St George's Hospital, UK

#### ABSTRACT

**Background:** Ward round attendance is a fundamental part of a student's clinical experience and offers an abundance of learning opportunities. Despite being a ubiquitous part of clinical life, these learning opportunities are not always accessed, with students often remaining passive observers. Additionally, doctors have to complete a clinically safe ward round whilst also attempting to teach, often without any formal teaching training.

**Summary of Work:** We surveyed 77 undergraduate students and 50 junior doctors about their experiences of teaching on ward rounds. Based on these results we designed a unique 7-point learning tool: 'The Ward Round Dissected' asking students to consider and reflect on aspects such as important diagnoses, interpreting investigations and ethico-legal issues that they may encounter. Students are given the tool at the start of the round and asked to use it for critical observation and reflection with a short follow-up session led by a doctor after the round.

**Summary of Results:** Over a fifth (21%) of students described ward rounds as 'not valuable' and only 2% described them as 'very interesting', with over a quarter describing them as 'not at all interesting'. When asked which words best describe their feelings about ward rounds: 72% said tedious and only 35% described them as educational and 15% as engaging. Nearly three-quarters (72%) of students felt their experience would improve if they were allocated a task and 25% felt a learning tool would be helpful. For doctors the biggest barriers to giving teaching were 'workload' and 'difficulty structuring'. When given our tool to use during ward round students and doctors gave positive feedback in terms of improved interest, usefulness and engagement.

**Discussion and Conclusions:** It is clear there are significant barriers to teaching and our results are damning in their view of ward rounds as a learning opportunity currently. Our tool structures ward round teaching in the face of high doctor workloads and can help promote both self-directed learning and reflective practice by students. It helps students consider oft-overlooked areas, such as ethico-legal, communication and teamwork factors; giving them a framework for critical analysis and thereby helping them consolidate theory into practice.

**Take-home Messages:** Isn't it time you dissected your ward round?



## #3EE ePosters - Workplace Based Learning

### 3EE10 (2953)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Expecting the unexpected - post graduate teaching on a general medicine ward round

#### AUTHOR(S):

- Nihar Pandit, Tan Tock Seng Hospital, Singapore (Presenter)

#### ABSTRACT

**Background:** It's difficult to define general medicine - undifferentiated, complex, multidisciplinary or when other specialties throw up their hands in despair. Similarly, patients admitted under general medicine conform to some or all the above. The challenge to the internist lies in differentiating the wheat from the chaff, dissecting the problem, prioritising and identifying key areas which require immediate (hospitalised) attention. Apart from medical conditions, we have patient preferences, quality of life and contextual features which add colour to the patient interactions. All in all, this yields a fertile ground for grooming young trainees in general medicine. When a lot of medical teaching is being transitioned to competency-based assessments, Objective Structured clinical examination's and simulation, little is being said and done about tapping the bedside clinical environment and harnessing it to a more meaningful, enriching experience for the patient and the learner.

**Summary of Work:** We gathered a qualitative feedback (via a set of questions) through personal interviews with five educators in general medicine (2 senior clinicians, 2 middle rank clinicians and 1 recently appointed clinician) and 10 learners to understand the expectations and needs of the learners and their opinion and review on bedside teaching.

**Summary of Results:** The results of the survey revealed that though the common fibre of importance of bedside teaching was understood across the board, issues such as the uncertainty, lack of uniformity, varied experiences and non- structured encounter added to the discomfort of the teacher and the learner. On reflection, the medical educators felt that the learners were not primed enough to face uncertainties. The learners opined that often this could lead to delayed ward rounds at the cost of other competing work at hand; and inability to have a sense of time control.

**Discussion and Conclusions:** Though bedside teaching during ward rounds may not yield immediate results in terms of efficiency and hard (medical knowledge) facts, they go a long way in mentally preparing the learner to grapple with uncertainties and build up their comprehensive thinking ability in dealing with the human nature of problems rather than just medical diagnosis.

**Take-home Messages:** Uncertainty in bedside teaching - accept the challenge; and move ahead.

## #3EE ePosters - Workplace Based Learning

### 3EE11 (3105)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### How Students Learn in Field Experience (Medical Elective Program) in College of Medicine - King Saud bin Abdulaziz University for Health Science

#### AUTHOR(S):

- Reem Alkahtani, King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia (Presenter)
- Lama Aldosari, King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia
- Manar Alzahrani, King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia

#### ABSTRACT

**Background:** The Medical Elective Program is a clinical experience program for first year medical students in the College of Medicine at King Saud bin Abdulaziz University - Riyadh. It provides students with the opportunity to explore career possibilities, to gain experience in aspects of medicine beyond core curriculum, and to study subject in greater depth. Aim: Evaluate the medical Elective Program and identify the factors that prohibit or enhance the students' learning in such program. Objectives: To identify the factors affect student performance during the elective program. To assess the association between the field of elective training and the number of working hours. Determine the relation between training and supervisor availability.

**Summary of Work:** This is a qualitative and quantitative cross-sectional study conducted in the College of Medicine-Riyadh at KSAU-HS. The data were collected from 589 students upon their completion of medical elective program. The data was collected using student evaluation form of the medical elective program, focus group and interviews to the 10 of supervisors. For purpose of assessing the overall quality of the elective, the field experience, student activities, supervisors involvement, and duration spent per week. we used SPSS version 21. P- value < 0.05 declared as statistically significant.

**Summary of Results:** The overall quality assessment of the medical elective program was Excellent and very good. There is significant relationship between the quality of the program and the supervisor involvement in training during the elective. Pediatrics departments showed the significant different in students activity along with the supervisor involvement The quality of medical elective on emergency medicine, was significantly higher than those who took their elective in surgery, medicine, family medicine and other specialties.

**Discussion and Conclusions:** There is an association between the number of working hours spent per week and the quality of Medical Elective Program. There is an association between the student activities during their elective and the quality of students' learning. There is an association between the supervisor involvement during the elective and the quality of students' learning.

**Take-home Messages:** Students activities, duration spent in the field and supervisor involvement are important factors for the success of the Program.

## #3FF ePosters - Patient Perspective and Involvement

### 3FF01 (144)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Empathy Self-Assessment is Not Enough: Physicians and Students Can Benefit from Patients' Perspectives to Grow

#### AUTHOR(S):

- **Monica Bernardo, School of Medical Sciences, University of Campinas, Campinas, São Paulo, Brazil (Presenter)**
- Dario Cecilio-Fernandes, Center for Education Development and Research University Medical Center Groningen, Brazil
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- Hugo D. Ceccato, School of Medical Sciences, University of Campinas, Campinas, São Paulo, Brazil
- Manuel João Costa, Life and Health Sciences Research Institute, School of Health Sciences, University of Minho, Braga, Portugal
- Marco A. Carvalho-Filho, School of Medical Sciences, University of Campinas/University of Groningen, Brazil

#### ABSTRACT

**Background:** Physician empathy is crucial for patient care, impacting patients' satisfaction and outcomes. Empathy enhances professional fulfillment, diminishes physicians' burnout, and contributes to medical students' clinical competence. Modern medicine may change medical practice. Undergraduate medical curricula should provide learning opportunities to nurture student empathy towards patients. Studies rely mostly on self-assessment instruments, which may not reflect the reality. Perhaps, the key to improving empathy in professional caregiver is to include the patient's perspective as an educator. Few studies have chosen this type of analysis.

**Summary of Work:** Objectives: Investigate the relationship of relationship in training empathy self-assessment compared with the evaluation of the medical empathy assessed by their corresponding patients. Analyze possible factors that may influence medical evaluations by patients. Correlate two psychometric scales in order to measure to from the patients perspective. Methodology: Multicenter observational study involving 566 outpatients and 89 senior medical students and residents in ambulatory care settings of various specialties from three universities. Patients completed the following scales: Consultation and Relational Empathy scale (CARE) and a Portuguese Validated version Jefferson Scale of Patients Perceptions of Physician Empathy (JSPPPE). The physicians in training answered the Jefferson Scale of Physician Empathy (JSE), International Reactivity Index (IRI). Pearson correlation, confirmatory factor analysis, and Cronbach alpha were conducted to correlate physicians and patient's scales, and analyze the validity and reliability of the scales, respectively.

**Summary of Results:** There was no significant correlation between patients' measures with students and residents self-assessment, except for a weak correlation (0,241,  $p < 0.01$ ) between the JSPPPE score and the JSE Compassionate Care sub-score. Medical students demonstrated higher levels of empathy than residents in both self-assessment and patients' measures. CARE and JSPPPE scales proved to be valid and reliable instruments. Female gender showed higher empathy's score.

**Discussion and Conclusions:** This study demonstrated a mismatch between physicians in training empathy self-assessment and their patients' assessments. This finding may have two implications: (1) patients' instruments may be measuring a different component of empathy, and (2) the self-assessment of empathy probably is not enough to foster more humanistic patient care. This information may result in new educational strategies.

**Take-home Messages:** Patients perception may be a goal to educational strategies in patient care.

## #3FF ePosters - Patient Perspective and Involvement

### 3FF02 (701)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Cancer Survivors as Educators in the Middle East: A Medical Student-Authored Narrative Medicine Educational Book

#### AUTHOR(S):

- Alan Weber, Weill Cornell Medicine Qatar (Presenter)
- Abdulrahman Abdulmalek, WCM-Q, Qatar
- Hanof Ahmed, WCM-Q, Qatar
- Mountasir Eltohami, WCM-Q, Qatar
- Sulaiman Alshakhs, WCM-Q, Qatar

#### ABSTRACT

**Background:** Health Humanities and Narrative Medicine researchers suggest that patient stories may be valuable in medical education to teach the social determinants of health and the patient point-of-view.

**Summary of Work:** The research employed mixed-methods (questionnaire, audiotaped interviews) to measure student learning from a narrative medicine service-learning project in which medical students in the State of Qatar interviewed persons living with cancer and wrote patient stories for a peer-peer educational book published by the Qatar Cancer Society.

**Summary of Results:** Students contributed an average of 7.5 hours to the project with less than 1 hour previously spent with patients. This was the first cancer patient encounter for 80.0% of the students. 60.0% of students agreed and 20.0% strongly agreed that the experience changed their view of cancer patients. 80.0% of students strongly agreed, and 20.0% agreed that service learning should be incorporated into medical education.

**Discussion and Conclusions:** The following representative themes were identified through Grounded Theory analysis (9 total themes identified) using NVivo 11.0 qualitative analysis software, summarizing the student learning: 1. cancer in the Qatari community: 'I learned that cancer affects the community as a whole, that it commonly affects the mothers, fathers, the grand parents, and care givers...there are still the remnants of distress caused by the disease whether that is psychological, social or financial.' 2. contribution to the patient and society: 'The patient told me that he wanted to share his story and he thought this booklet was a great idea because he wanted other people to realize that it isn't the end of the world if they're diagnosed with cancer.' 3. attitudes to cancer in Qatar: 'I understand that in [this] culture people are afraid to even mention the term - I think her family didn't really understand': at one point she had to remove her uterus, and they said, 'what do you mean, how are you going to get married in the future?'

**Take-home Messages:** The results suggest that both narrative medicine and service-learning may be valuable in medical school elective courses for students to contribute to the community and to teach them about the patient-perspective-of-disease and social determinants of health, establishing trust and empathy with patients.

## #3FF ePosters - Patient Perspective and Involvement

### 3FF03 (1098)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Integrated family-centeredness questions into acute inpatient care report writing during pediatric rotation: Can this enhance holistic mind in medical students?

#### AUTHOR(S):

- Noppawan Pongsopa, Pediatric Department, Thailand (Presenter)
- Arunee Tipwong, Family-Medicine Department, Thailand

#### ABSTRACT

**Background:** Suratthani Medical Education Center has been promoting the faculty staffs to emphasize medical students on holistic care. Nevertheless, the setting of overcrowded service-based practices causes the faculty staffs facing challenges to achieve the desirable teaching environment for this task. This study aimed to evaluate the students' attitudes on holistic care after been assigned to fill a family-oriented form in their report writing during pediatric rotation.

**Summary of Work:** A one-page family approach form was created and implemented in report writing of twelve 4th and 5th year medical students during their pediatric rotation, November - December, 2018. A mixed-method study using questionnaire and focus group interviewing was conducted to evaluate the tools.

**Summary of Results:** All 12 students affirmed that writing acute care report using this tool could promote their ideas of holistic care. Some students reflected their deep understanding of how acute ill children can effect on the family. One student said 'when the child is sick, the family is also sick.' The students reported three factors they thought that could effect on pediatric care which were caregiver, home environment, and socioeconomic status at 58.3%, 25% and 16.7% respectively. The fifth-year students could determine and fill-in holistic information better than the forth-year. All interviewees suggested on integrating holistic approach into bedside teaching and case conference, 83.3% and 16.7% respectively. They also suggested on adding this idea in all rotations.

**Discussion and Conclusions:** Socioeconomic status was rated as less effect on patient care may due to the Thai universal health coverage campaign for children age 0 - 12. Fifth-year medical students have better holistic approach than the fourth-year that probably because of their previous experiences in family medicine rotation which already enhanced them on holistic mind. Integrating one-page family-oriented form into acute care report writing could help enhance holistic mind in medical students. Implementing the tool in all clinical rotations could be beneficial.

**Take-home Messages:** Continuing use of family-oriented form is needed to enhance medical students' holistic mind.



## #3FF ePosters - Patient Perspective and Involvement

### 3FF04 (1192)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Patients as educators: What we can learn from the patient--An amazing story from a multiple sclerosis patient

#### AUTHOR(S):

- Min-Huei Hsu, Taipei Medical University, Taiwan (Presenter)
- Ju-Chuan Yen, Department of Ophthalmology, Department of Teaching and Research, Ren-Ai Branch Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** Reflective medicine or narrative medicine or an oral history of the patient is a form to honor the patient through their oral presentation of their illness life story pertaining to their sufferings to help us to understand the whole picture of the sickness landscapes that taking up the patient, and it was believed to help the patient's and physician's resilience as well. Based on this theory, a storytelling of a multiple sclerosis patient first presenting as acute left optic neuritis twenty-seven years ago in Taiwan was revealed in a chronicle.

**Summary of Work:** After the attainment of this patient's consent, an in-depth interview with audio recording was done and was transcribed into verbatim accordingly. Grounded theory was used to develop the themes of this interview verbatim.

**Summary of Results:** Themes surfaced after practice of grounded theory, which were 'how Chinese culture forged decision of 'delayed treatment of total loss of left vision for five days', 'what were rationales behind treatment decision discrepancy between kinships', 'what were real impacts of the disease', 'how resilience built in patients and physicians' and 'how trust built on this relationship'.

**Discussion and Conclusions:** Through her storytelling, we have learned a lot; not only the physical sufferings but also from the cultural, psychological perspectives of the illness. How the traditional Chinese culture has forged the patient's mental status and even helped to build the resilience in an astonishing way was disclosed in a narrative. And hopefully, this narrative will help us better understand what and how the patient was suffering and how she recovered physically, mentally and socially later; in this way, what we have learnt from her will be applied to our daily practices and also help us and the patient to be resilient while facing the patients' sufferings.

**Take-home Messages:** This narrative helped us understand what the disease landscape has been for a multiple sclerosis with presentation of acute left retro-bulbar optic neuritis based on a psycho-physic-social context. It would lead us to learn authentic patients' perspectives, further quality of care and better help patients and physicians in clinical practice.

## #3FF ePosters - Patient Perspective and Involvement

3FF05 (1228)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Patient opinion towards clerkship student involvement in patient care and building a long-term relationship with students: a preliminary result in a hospital in Korea

#### AUTHOR(S):

- Cheol Woong Jung, Korea University College of Medicine, Korea (Presenter)
- Young-Mee Lee, Korea University College of Medicine, Korea

#### ABSTRACT

**Background:** The longitudinal integrated clerkship (LIC) has been adopted many medical schools to overcome the limitation of traditional block clerkship rotation and to achieve 'continuity' of patient care. However, LIC has not been widely adopted in Asian countries. To successful implementation of LIC, patient participation is crucial. However, patient's reluctance to be seen by students or junior doctors has been increasing in Korea. This trend hinders the adoption of novel program which requires patient engagement such as LIC.

**Summary of Work:** The authors conducted a survey to investigate patient opinion towards students' involvement in patient care and building a long-term relationship with student. Thirty-six kidney transplant patients who had previous hospitalization with long-term disease history were participated.

**Summary of Results:** Mean duration of having diagnosed as chronic kidney disease was  $182.0 \pm 110.6$  months. Surprisingly, 30.6% of respondents did not know that medical students were training at the authors' hospital and 88.9% had never been interviewed or examined by a medical student. 41.7% of patients showed negative responses to the practice of medical students. However, 25 patients (69.4%) agreed that medical student participate in their care for a long period time. 16 patients (44.4%) thought that medical students would not be helpful in taking care of their disease.

**Discussion and Conclusions:** Compared with previous studies in Western countries, a fair number of patients in this study hold less favorable attitudes towards the practice by medical students. This might be explained that patients rarely contacted with medical students and thought medical education was completely independent from their care. We should make an effort to persuade patients that one of important roles of university hospital is 'teaching and training' to cultivate future doctors and for to do this, patient participation is crucial. Based on this preliminary survey, the authors will conduct a further study to explore how we can encourage patient willingness to meet medical students and what should be prepared in advance for building a long-term relationship between patients and students.

**Take-home Messages:** In order to overcome the negative patient perception towards students' involvement in patient care and to make favorable atmosphere to LIC, medical educators should listen to patients' voices and identify their needs.

## #3FF ePosters - Patient Perspective and Involvement

### 3FF06 (1904)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### An effective patient as educator initiative to reduce stigmatizing attitudes towards mental illness among medical students

#### AUTHOR(S):

- Beatriz Atienza Carbonell, University of Valencia Medical School, Spain (Presenter)
- Helena Hernández-Évole, University of Valencia Medical School, Spain
- Vicent Balanzà -Martínez, University of Valencia Medical School, Spain

#### ABSTRACT

**Background:** Despite recent studies suggesting improved negative attitudes toward the mental ill among the general population, growing evidence supports that stigma remains among clinicians, whereas fewer studies have focused on medical students. A positive attitude towards mental illness among future clinicians is desirable as it may impact on their professional attitudes and provision of healthcare.

**Summary of Work:** A pre-post, online survey was conducted to evaluate the efficacy of a 'patient as educator' intervention to reduce attitudes and degree of stigma towards mental illness among pre-graduate students. All second-year students were invited to complete the CAMI, RIBS and MAKs questionnaires before and after taking the Psychological Medicine module. During the semester, a subgroup of students was invited to attend a workshop led by two patients and a peer student suffering from mental illnesses. Participation was voluntary and responses were anonymized.

**Summary of Results:** From a total population of 296 students, 254 and 154 completed the survey before and after the module (response rates = 85.8% and 52.02%, respectively). From the study sample (n=154 respondents), 24 students attended the workshop. After the intervention, participants attending the workshop significantly improved in the social restrictiveness, benevolence and authoritarianism attitudes. However, students taking the module (n=130) significantly improved only in the authoritarianism attitudes. Both groups showed an improvement in their willingness to live with someone suffering from a mental illness and in supporting the statement that mental illness is like any other disease.

**Discussion and Conclusions:** Overall, the results of the Patient as Educator intervention suggest that formal and goal-directed activities including direct contact with patients with a mental illness have a great potential to reduce medical students' stigmatizing attitudes on top of formal medical education.

**Take-home Messages:** Student and patient engagement activities shown to be a key factor in anti-stigma preventative efforts. Implementation of Patient as Educator workshops throughout the medical curriculum may directly improve the attitudes of future healthcare professionals.

## #3FF ePosters - Patient Perspective and Involvement

**3FF07 (1965)**

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Pooled Patients' Clinical Data as a Transformative Agent

#### AUTHOR(S):

- Thammasorn Jeeraaumponwat, Medical Education Center, Khon Kaen Hospital, Thailand  
(Presenter)

#### ABSTRACT

**Background:** Real patients, as well as simulated and standardized patients, participating as teachers, have important educational benefits for medical students. Engaging the students with evidence from the patients' pooled data set from research can generate new insights as a transformative agent for integrated learning. This study aimed to evaluate students' learning experiences through pooled clinical data.

**Summary of Work:** Ten fifth-year medical students in the 4-week research and evidence-based medicine course using pool patients' clinical data set from a tuberculosis clinical research involving more than 5000 patient records and 100 variables were asked to participate in the focused group discussion using semi-structured interview list. Emerging themes were collected using thematic analysis.

**Summary of Results:** The thematic analysis process that was employed to the transcripts evoked key concepts that were evident in the data. These themes were observed as crucial of all participants. These categories included 'Variety of Clinical Encounters', 'Data Aid Decision Making', 'Pool Data as an Encyclopedia', and 'Competency Reflection.' Our results highlight the connection between themes. The findings also support the concept of early exposure of medical students to clinical research to learn clinical encounter through the pooled clinical data set.

**Discussion and Conclusions:** Pooled patients' clinical data can be used as a transformative agent for integrated learning of clinical encounter in the undergraduate. However, the orientation of the data set is required especially where time is limited.

**Take-home Messages:** Not only individual patient encounter but the pooled patients' clinical data also have a teaching role in the medical curriculum.

## #3FF ePosters - Patient Perspective and Involvement

3FF08 (2042)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Fostering patient-centeredness by following patients outside the clinical setting: an interview study

#### AUTHOR(S):

- Charlotte Eijkelboom, UMC Utrecht, The Netherlands (Presenter)
- Christel Grau Canét-Wittkamp, University Medical Center Utrecht, The Netherlands
- Dorien Zwart, University Medical Center Utrecht, The Netherlands
- Saskia Mol, University Medical Center Utrecht, The Netherlands
- Esther de Groot, University Medical Center Utrecht, The Netherlands

#### ABSTRACT

**Background:** Patient-centeredness is considered a core competency for health professionals. To support faculty in designing interventions focused on patient-centeredness, an understanding about how educational interventions lead to patient-centeredness is required. This study aims to understand how learning mechanisms, which potentially contribute to patient-centeredness, are triggered.

**Summary of Work:** Thirty-five third year medical students at the UMC Utrecht followed four different patients for three years. The intervention took place in an out-of-hospital setting, students visited patients at their homes. Twelve students were interviewed. The realist approach was used to construct CIMO-configurations, in order to relate components of the intervention to context and learning mechanisms.

**Summary of Results:** Our data suggest that following patients in their personal environment for a prolonged period supports the development of meaningful relationships between students and patients. Furthermore, following patients for a prolonged time provided continuity. In the context of a meaningful relationship and continuity learning mechanisms related to patient-centeredness were triggered. The most important learning mechanisms found in this study were: reflecting, contextualizing disease with life stories, broadening perspective and engagement with patients.

**Discussion and Conclusions:** In an educational intervention which supports continuity and the development of meaningful relationships, learning mechanisms related to patient-centeredness were triggered. In former studies, meaningful relationships between students and patients were seen as an outcome for patient-centeredness. In addition, we suggest that valuable student-patient relationships provide a context which fosters learning, and therefore are an important enabler for the development of patient-centeredness in medical students.

**Take-home Messages:** Continuity and meaningful relationships between students and patients contribute to the development of students' patient-centeredness. Therefore, we advise faculty to design educational interventions which provide continuity and enables students and patients to build meaningful relationships.



## #3FF ePosters - Patient Perspective and Involvement

3FF09 (2117)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Set and Setting in Ketamine Therapy: A Patient's Tips for Providers and Students

#### AUTHOR(S):

- Ronan Hallowell, Keck School of Medicine of the University of Southern California, USA  
(Presenter)

#### ABSTRACT

**Background:** Ketamine was approved for use as an anesthetic in the USA in 1970. In the past 20 years it has been studied as a treatment for refractory pain and treatment-resistant depression. Over the past several years hundreds of off-label ketamine clinics have opened in the USA, including some university medical centers. Ketamine clinics also operate in Mexico, Canada, New Zealand, Spain, Switzerland, Germany, and the UK. Although controversy still surrounds the long-term efficacy and safety of ketamine therapy, its salutary effects for many patients who have not been able to find relief by other means justifies its availability in addition to demanding on-going research on both the pharmacological and extra-pharmacological considerations germane to its safe and effective use. At sub-anesthetic doses ketamine can have dissociative and psychedelic effects. For some, these are unwanted side-effects to be mitigated while for others they can be an essential part of effective treatment. Regardless, it is important for providers to be sensitive to the unique effects of ketamine and how to work with patients to provide a safe and caring environment. Drawing on the author's own experience of dozens of ketamine treatments for depression, his work as a medical educator & 20 years of research on indigenous cultures uses of psychedelics, he provides tips for providers and students on how to work with patients to develop an optimal set and setting for treatment.

**Summary of Work:** This work presents autoethnographic data collected by the author from ten IV infusions of ketamine for treatment-resistant depression over a six-week period in early 2019 at a hospital in California.

**Summary of Results:** Clear communication with the physician around the treatment plan and protocol is crucial for building trust and smooth functioning of sessions. Nurses should receive training related to dealing with patients experiencing non-ordinary states of consciousness. The setting should be as calm, private and aesthetically pleasing as possible.

**Discussion and Conclusions:** Caring communication and sensitivity to the patient's delicate state can make a significant positive impact on the patient's experience.

**Take-home Messages:** Clinicians understanding of the psychotherapeutic potential of psychedelic experiences can help patients leverage extra-pharmacological benefits of treatment, whereas a negative attitude can have deleterious effects.

## #3FF ePosters - Patient Perspective and Involvement

### 3FF10 (2459)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Let's ask the patient - development of a questionnaire for patient's feedback in medical education

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Ability to apply patient-centeredness throughout a patient encounter, and to adequately communicate, are important skills for medical students to develop. Today, feedback regarding patient-centeredness is often provided by a clinical teacher. Patients are rarely asked to provide feedback to students. One way for patients to provide feedback to students is by a questionnaire. There is however a lack of validated questionnaire designed for written patient feedback in medical education. The aim of this study was to develop a feedback questionnaire for patient's feedback to medical students, adjacent to a clinical encounter.

**Summary of Work:** The development and validation process of the patient feedback questionnaire follows the CONSORT checklist using a social constructivist framework. The items were developed in alignment with learning outcomes for the medical programme at Karolinska Institutet, and validated through interviews with 65 patients, 22 students at various stages in medical education, eight clinical supervisors and clinical teachers. Further, 256 patients gave 86 students feedback, using the questionnaire. Data was analysed by thematic content analysis and psychometric methods to analyze the outcomes and construct of the questionnaire. Exploratory factor analysis in the framework of confirmatory factor analysis were used to assess internal validity. Cronbach alpha were used to test reliability of the items in construct of the final factor model.

**Summary of Results:** The internal consistency was high, constructing two domains and 19 items. The items experienced included relevant areas for feedback. The student's experiences indicates that the questionnaire provides feedback that facilitates the student's ability to identify learning gaps within the field of communication and patient-centeredness.

**Discussion and Conclusions:** Discussion: The result shows that the items are valid, reliable and internally consistent in the construct of the questionnaire. The questionnaire provides patient opportunities for concrete and direct feedback, and help students in clarifying their competency-level regarding ability to communicate and apply patient-centeredness. Conclusions: The questionnaire is a valid, reliable and internally consistent questionnaire for patient's feedback to students in medical education.

**Take-home Messages:** The questionnaire is a promising learning tool in order to facilitate medical student's development of communication skills and patient-centeredness.

## #3FF ePosters - Patient Perspective and Involvement

**3FF11** (2482)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### A patient involvement programme toward interprofessional approach in fourth year medical students before clinical training

#### AUTHOR(S):

- **Mina Suematsu, Nagoya Graduate School of Medicine, Japan (Presenter)**
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#### ABSTRACT

**Background:** Patient involvement in medical education has recognised as effective ways for understanding patients' perspectives globally. However, in Japan few programmes with real patients were reported before clinical training, especially patients as educators. Then, we implemented a new programme which was involved a patient with Parkinson disease (PD) and retired expert on communication. The aim of this study was to explore what medical students could learn from the programme.

**Summary of Work:** Subjects were 238 fourth year medical students participated in this programme in 2017 and 2018. They divided into small groups consisted of 7 or 8 students. The programme included two sessions. Firstly, they role-played as five healthcare professionals (medical doctor, pharmacist, nurse, care manager and physical therapist) to make their care plan for the patient with PD. Secondly, they explained their care plans to the patient and got the feedback immediately. After that, we asked them three basic questions, scoring on a five-point Likert scale, and their reflection from this programme.

**Summary of Results:** The response rate of questions was 61.8%. The mean score ( $\pm$ SD) of three questions were  $4.6(\pm 0.7)$ ,  $4.5(\pm 0.8)$  and  $4.5(\pm 0.8)$  respectively. Their reflection was 'Happy to hear the story from both the perspectives of an educator dedicated to communication and a patient.' 'Surprised that medical doctor grasped little information and should discuss the other healthcare professionals.' 'First experience to see tremor.' and etc.

**Discussion and Conclusions:** Although this programme was a pilot, almost all medical students answered the programme was useful to know the patients perspective and the importance of cooperation with the other professionals. Additionally, the students were aware of their respect for the patient, and could understand easily how difficult the patient felt in his life, nevertheless the patient in this programme was also the expert on communication.

**Take-home Messages:** A successful patient involvement programme could lead medical students to respect patients and should be implemented repeatedly before clinical training.

## #3FF ePosters - Patient Perspective and Involvement

### 3FF12 (2531)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Clinical Education in Outpatient Settings: The Patient as a Teacher

#### AUTHOR(S):

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- Odenir Nadalin Junior, PUC-PR, Brazil
- Leonardo Bach Margraf, PUC-PR, Brazil
- Maira de Mayo Oliveira Nogueira Loesch, PUC-PR, Brazil
- Lidia Ana Zytinski Moura, PUC-PR, Brazil
- Caroline Ehke Gonzaga, PUC-PR, Brazil

#### ABSTRACT

**Background:** The clinical teaching at a university in Curitiba (Brazil) includes lectures, simulation, case discussions, bedside teaching and supervised internship in an outpatient care clinic. Unlike most schools, in which practical clinical education is taught in a hospital environment, this course has outpatient care clinics created especially for undergraduate teaching purposes. In small groups, students attend to patients from many medical specialties under a teacher supervision.

**Summary of Work:** A questionnaire (n=81) with 10 multiple quantitative (1 to 5 scale) and qualitative questions was applied among students who attended those clinical activities. The aim is to look upon to the impact of the outpatient care environment on medical training, evaluating the performed activities and the acquired skills.

**Summary of Results:** Questionnaire results showed that the main clinical ability positively impacted by the internship in the outpatient care facilities was the communication with the patients (4.87), followed by the ability to perform anamnesis (4.73), physical examination (4.67) and physiopathological reasoning (4.4). The students pointed out that autonomy and the skills development from the contact with real patients are the strongest features among teaching-learning strategies. The impact perception about feedback on learning was 4.18. However, the teacher supervision and the quality of the feedback made by them were indicated as the points that should be improved.

**Discussion and Conclusions:** The practical learning at academic outpatient care settings showed up being a good resource in teaching clinical abilities, consolidating the knowledge obtained in other scenarios like traditional classrooms and simulation center. Furthermore, it helps students to develop good medical care practices, through the outpatients' wealth of signs and symptoms - what makes the patient a kind of teacher. Good behavior, respect and empathy are encouraged since the beginning of the training, what contributes to humanized care learning.

**Take-home Messages:** Low-complexity levels of health care are a safe place for students to improve their clinical abilities by practicing an autonomous medical health care under supervision with real patients, whom turn out to be theirs teachers. Therefore, it is necessary to rethink clinical education in a general way, expanding the practical learning to extra-hospital care environments.

## #3FF ePosters - Patient Perspective and Involvement

### 3FF13 (2874)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Understanding patient perspectives of resident roles in academic family medicine

#### AUTHOR(S):

- Charlie Guiang, St. Michael's, University of Toronto, Canada (Presenter)
- Damian Rzeznikewicz, St. Michael's, University of Toronto, Canada
- Morgan Slater, St. Michael's, University of Toronto, Canada

#### ABSTRACT

**Background:** Reports have shown that Family Medicine residents in Ontario provide approximately 625,000 hours of care to family medicine patients yearly. However, a UBC survey showed that more than half of the respondents (55%) did not understand the role and training of resident physicians involved in their care. This study strives to better understand the ideas and perceptions of the patients seen at an Academic Family Health Team with regards to the roles of resident physicians.

**Summary of Work:** - Conducted a prospective study of patients in the family practice centers affiliated to St. Michael's Hospital. - Administration of surveys to eligible participants over the age of 18 who are rostered to a physician at any of the sites. - Quantitative and qualitative assessment; October 1<sup>st</sup> 2016 to February 1<sup>st</sup> 2017. 205 respondents in total.

**Summary of Results:** Do you feel that you understand the difference between a medical student, a resident, and an attending physician? (n=201) Yes - 73.5%  
When a doctor provides you care, is it important for you to understand their level of training? (n=192) Yes - 85.4% No/Unsure - 14.6%

Do you always know the level of training of the physician who is caring for you? (n=191) Yes - 32.5% No/Unsure - 67.5%

Would you be more willing to see a resident physician if you understood his/her level of training? (n=189) Yes - 78.3% No/Unsure - 21.7%

Is a resident a medical doctor? (n=198) No/Unsure - 34.8%

Does a resident physician have a license to prescribe medication? (n=189) No/Unsure - 50.3%

**Discussion and Conclusions:** Considerations: - We were able to distribute a large number of surveys in a short period of time - First study of its kind at the University of Toronto - Distribution of surveys between clinics was uneven - Largely female sample - difficulty generalizing results to male patients.

**Take-home Messages:** Patients want to understand the level of training of care providers in academic family medicine and are more likely to engage in care with resident physicians if they do. However, patient education is often omitted from clinical encounters, contrary to patient preferences.



## #3GG Posters - Empathy and Ethics

### 3GG01 (1930)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Personal values as predictors of medical students' empathy

#### AUTHOR(S):

- Maria Grazia Strepparava, University of Milano - Bicocca, Italy (Presenter)
- Stefano Ardenghi, University of Milano - Bicocca, Italy
- Giulia Rampoldi, University of Milano - Bicocca, Italy

#### ABSTRACT

**Background:** The theory of values has been shown to influence a wide range of human behaviors. However, little is known about the specific relationship between personal values and the empathetic attitude in medical students.

**Summary of Work:** The aim of this study was to assess personal values in a sample of Italian medical students and to clarify its relationships with empathy variables.

**Summary of Results:** The impact of personal values (measured by the Portrait Value Questionnaire) on empathy dimensions (measured by the Interpersonal Reactivity Index) was investigated in a convenience sample of 398 second-year students (female=207; main age=19.93, SD=1.39) from an Italian Medical School. Analyses of variance and multiple hierarchical regression models were performed with the predictive analytics software SPSS 24 for Mac. ANOVA revealed that male students scored higher in Self-Enhancement scale ( $F=36.503$ ;  $p>0.001$ ), while female students had higher levels of Self-Transcendence dimension ( $F=12.402$ ;  $p>0.001$ ). Regression models showed that Self-Transcendence had a positive contribution to Empathic Concern ( $B=3.973$ ;  $p>0.001$ ), while Perspective Taking was predicted by Self-Transcendence ( $B=3.567$ ;  $p>0.001$ ) and Self-Enhancement ( $B=-0.697$ ;  $p<0.05$ ), even after controlling for gender and age.

**Discussion and Conclusions:** Gender differences in personal values were found. Male medical students scored higher in self-promotion dimension, while female students were more disposed to transcend selfish interests. Moreover, self-transcendence value was positively related to students' tendency to adopt the point of view of others and to feel sympathy and concern for unfortunate people. On the contrary, the self-enhancement value could be a barrier to see the world from others' viewpoints.

**Take-home Messages:** These findings have some educational implications. Medical education should develop assessment strategies and tailored educational interventions to improve students' awareness about their own personal values since they are early predictors of medical empathy.

## #3GG Posters - Empathy and Ethics

### 3GG02 (2496)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Does postgraduate clinical training enhance empathy and empathic communication among trainee dentists?

#### AUTHOR(S):

- Toshiko Yoshida, Okayama University, Japan (Presenter)
- Sho Watanabe, Okayama University Hospital, Japan
- Takayuki Kono, Okayama University Hospital, Japan
- Hiroaki Taketa, Okayama University Hospital, Japan
- Hajime Shirai, Okayama University Hospital, Japan
- Yasuhiro Torii, Okayama University Hospital, Japan

#### ABSTRACT

**Background:** Empathy in the dentist-patient relationship has positive effects on patient outcomes, such as increasing cooperative behavior and patient satisfaction. Therefore, enhancing empathy in dental education is a critical issue for delivering better care to patients. The aim of this study was to determine whether postgraduate clinical training enhances empathy and empathic communication behavior in medical interviews among trainee dentists.

**Summary of Work:** The study involved 31 trainee dentists and 10 simulated patients (SPs). The trainee dentists conducted initial interviews with the SPs twice, at the beginning and the end of their clinical training. They completed the Japanese version of the Jefferson Scale of Physician Empathy (JSPE) before each interview. The characteristics of the trainee dentists' verbal interactions during the interviews were analyzed using the Roter Interaction Analysis System (RIAS). We added six categories to the task-focused exchange to analyze the dental content. We calculated the percentage rates of trainees' verbal interactions for each category and then concentrated all categories into 14 larger clusters. The data were analyzed using the Wilcoxon test.

**Summary of Results:** No significant differences were found in the JSPE scores between the beginning and the end of clinical training. Trainee dentists at the end of training used more positive responses, gathered more dental data, had less emotional expression, less facilitative behavior, and gathered less medical data and less psychosocial data than those at the beginning of training.

**Discussion and Conclusions:** The trainees' unchanged self-reported empathy scores indicate that the postgraduate clinical training may not be effective in increasing their empathy. The results also suggest that the post training tends to enhance history-taking skills but not empathic communication behavior in medical interviews. A dental postgraduate clinical training program that cultivates the trainees' humanistic attitude should be developed.

**Take-home Messages:** A more integrative approach that bridges scientific aspects with a humanistic attitude should be applied to the postgraduate clinical training program in dentistry.

## #3GG Posters - Empathy and Ethics

### 3GG03 (2415)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### To See is to Believe - the compulsory course “Medical services to the remote area” substantiates empathy education in the real-world practice

#### AUTHOR(S):

- **Ling-Lang Huang, Mackay Medical College, Taiwan (Presenter)**
- Yih-Jer Wu, Mackay Medical College / Mackay Memorial Hospital, Taiwan
- Chao-Hsiung Lee, Emergency Department / Mackay Memorial Hospital, Taiwan
- Shiu-Jau Chen, Mackay Medical College / Mackay Memorial Hospital, Taiwan
- Chun-Chih Peng, Mackay Medical College / Mackay Memorial Hospital, Taiwan
- Ming-Jong Bair, Department of Internal Medicine / Taitung Mackay Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Despite adequate medical students graduated each year, the number of physicians in remote areas remains far from sufficient in Taiwan. Commiserating local people about their different needs and values towards life is the first step to initiate the motivation for remote area services. To this end, we initiate a compulsory course “Medical services to the remote area” that enables students to participate real-world medical services in Taitung, a remote county in eastern Taiwan.

**Summary of Work:** Year-6 medics took the course by clinical rotation to Taitung Mackay Memorial Hospital for 2 weeks, during which they participated in medical services at the hospital and several health-care stations in Taitung county. The questionnaire at the end of the course and 3 reflection reports were collected for the analysis.

**Summary of Results:** Totally 20 medical students already finishing the course from June to December 2018 were enrolled. From the qualitative analysis of 60 reflection reports, 3 major conclusions were drawn. First, commiserations to the difficulties in accessing medical resources: limited medical facilities (80% of students), traffic limitation (45%), poor family support (45%); second, commiserations to the differences in values towards life: the values led to different medical decisions which were beyond evidence-based medicine (85% of students). The distinct values may result from limited medical resources (55%), low financial status (30%), patient-physician relationship (25%), low educational levels (15%); third, substantiation of empathy into a motivation: 65% of students expressed their willingness to be remote area physicians.

**Discussion and Conclusions:** Our questionnaire results, in line with the qualitative analysis, showed that as high as 100% of students agreed or extremely agreed that the course had strengthen their empathy about social and cultural difference in patients of remote areas, and that the course had ignited their passions towards services to patients in remote areas. In agreement with our findings, around 50% of residents without experiences of services in remote area during their student time refused to join the rotation to Taitung, in contrast to none of those with.

**Take-home Messages:** Real-world course in remote area enables students to “see” differences from their hearts, to genuinely “believe” the value, and finally to take an action for the services.

## #3GG Posters - Empathy and Ethics

### 3GG04 (2749)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Influences on medical students' empathy in Walailak University

#### AUTHOR(S):

- **Patthira Sangthong, Vachira Phuket Hospital Medical Education Center, Thailand (Presenter)**
- Krittin Manokarn, Vachira Phuket Hospital Medical Education Center, Thailand
- Withita Jangiam, Vachira Phuket Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Being a good doctor not only requires clinical skill, but also emotional skill. Empathy is the ability to understand and share another person's feelings and emotions. It is considered one of the essential attributes of professionalism for medical students. Sometimes patients don't want only clinical problem to be treated but sometimes they want a doctor to understand them. Our study aims to study the differences in the scores of empathy between medical students in Walailak university.

**Summary of Work:** The Jefferson Scale of Physician Empathy (JSPE) was translated into Thai version and administered to 240 medical students in Walailak University (1st year to 5th year) using Google forms. Questionnaires were divided into two parts. The first part was a general information which include sex, age, years, grades and illness in family members. The second part consists of 20 questions to assess skill of empathy. 202 medical students were participated in our study. The study was analyzed by SPSS (Independent-samples T test and One-way ANOVA).

**Summary of Results:** Mean score of empathy for medical students was 102.16. The highest score is in 2nd year medical students with the score of 105.19. The lowest is in 4th year students with the score of 99.29. Preclinical students have higher score than clinical students but not statistically significant. The statistically significant in sex which females have higher score than males ( $p=0.45$ ) and the medical students who have the illness person in their family have higher score than those who have not ( $p=0.003$ ).

**Discussion and Conclusions:** Medical students in Walailak university had high empathic level. Female medical students have higher score of empathy than male. It might be the effect of cultural expectation about gender role. Another reason is that males are portrayed as less emotional and more cognitive. Illness in family members also promotes empathy in medical students. The development of empathy should be promoted in medical students especially in male by teaching the importance of empathy to improve doctor-patient relationship.

**Take-home Messages:** Empathy is essential to improve doctor-patient relationship. We can promote our empathy by taking care of patient like our family members.

## #3GG Posters - Empathy and Ethics

### 3GG05 (2089)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Empathy Assessment in Thai Medical Students: The Acceptability of Thai Translation of Jefferson Scale of Physician Empathy-Student Version

#### AUTHOR(S):

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- Chaiyapruk Kusumaphanyo, Department of Anaesthesiology, Faculty of Medicine, Srinakharinwirot University, Thailand
- Amarin Narkwicchan, Department of Obstetrics and Gynaecology, Faculty of Medicine, Srinakharinwirot University, Thailand

#### ABSTRACT

**Background:** In medical school, students were taught that empathy is the key success in doctor-patient relationship. Many researches studies have been shown to increase patients' satisfaction, comfort, self-efficacy, and trust which in turn allow better diagnosis, shared decision making, and compliance. Yet, clinical empathy is still poorly defined and ways for its assessment remain ambiguous. In this study, we examine the psychometric properties of a Thai translation of the Jefferson Scale of Empathy and its ability to assess empathy.

**Summary of Work:** This cross-sectional study used Jefferson Scale of Physician Empathy-Student Version (JSPE-S) to assess 28 sampled medical students at Srinakharinwirot University. They were asked to complete JSPE-S and then to suggest additional statement that can more precisely measure their empathy.

**Summary of Results:** All the selected students scored more than 126 from JSPE-S. The highest empathy score was found in the second-year students, while a decline was found as academic year progresses. 64% of the students stated that JSPE-S does not accurately measure their empathy. Many suggested that some statements did not effectively reflect their empathy. Additionally, common preferred statements were suggested, such as "I believe that empathy is a skill that can be taught and improve" and "I often feel that I could have been more empathetic".

**Discussion and Conclusions:** The study revealed that Thai medical students viewed JSPE-S as an inaccurate instrument to measure their empathy, even though its validity and reliability was confirmed. Many of its questions were commented as ineffective and some alternative questions were suggested as better substitutes. A direct translation from the English version may had missed the nuance of empathy meaning in Thai context. A revision of Thai translation of JSPE-S is recommended to accurately determine ones' empathy.

**Take-home Messages:** Jefferson Scale of Physician Empathy-Student Version (JSPE-S) may not be an accurate measurement of empathy in Thai medical student. Further questioning may be required to reflect a complete evaluation in ones' empathy.



## #3GG Posters - Empathy and Ethics

### 3GG06 (2078)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Determining Factors Influencing Empathy in Preclinical and Clinical Year Medical Students

#### AUTHOR(S):

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- Krittanont Wattanavaekin, Faculty of Medicine, Srinakharinwirot University, Thailand
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- Chaipapruk Kusumaphanyo, Department of Anaesthesiology, Faculty of Medicine, Srinakharinwirot University, Thailand

#### ABSTRACT

**Background:** Empathy is a multifactorial personality trait which is key to effective patient-physician communication. Yet, clinical empathy is still poorly defined and ways for its enhancement remain unclear. A better understanding of empathy will allow a wider diversification on ways to improve it.

**Summary of Work:** Average-performing students were chosen by using snowball sampling method. They are then separated into four focus group discussion. Each focus group lasted for an hour and included 7 students. A sample of 14 preclinical year and 14 clinical year medical students were enrolled. They were asked to identify factors and strategies for enhancing empathy. Through a consensus thematic analysis, three researchers independently performed qualitative analysis on the audio records and field notes to identify themes. Comparison of each themes were then examined to identify any similarities and differences.

**Summary of Results:** Themes from preclinical year medical students' group suggested that empathy is built through personal factors such as "experience with receiving empathy" and "parenting style" and served as dominant factors determining the degree of one's empathy. In contrast, clinical year medical students' group propose "compatible relationship between individuals" and "current mood" as key factors affecting empathy.

**Discussion and Conclusions:** It is repeatedly observed that empathy is often diminished as medical students academically advance. To decrease this decline, individually-tailored curricular programs to promote empathy should be considered as different factors are being valued differently. Giving empathy-related experiences and emphasizing on the role of attentive advisors are favored more on preclinical year students while mood management skills may be more influential for clinical year medical students.

**Take-home Messages:** Dominant factors influencing cultivating empathy are observed to be different between preclinical year and clinical year medical students. Hence, an individually-tailored curricular programs must be considered to effectively promote empathy.

## #3GG Posters - Empathy and Ethics

### 3GG07 (420)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A phenomenological exploration of medical students' understanding, development and expression of clinical empathy

#### AUTHOR(S):

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- Victor Loh, National University Hospital, Singapore
- Gillian Phua, National Cancer Centre Singapore, Singapore
- Wee Shiong Lim, Tan Tock Seng Hospital, Singapore
- Janneke Frambach, Maastricht University, Netherlands

#### ABSTRACT

**Background:** Clinical empathy is a key component of medical education as it impacts on patient outcomes and physician well-being. Evidence shows that although medical education does not foster empathy, students' empathy development is influenced by their medical school experiences, in line with situativity theory. To inform educational strategies to cultivate empathy, this study aims to explore medical students' understanding, development and expression of empathy through their lived experiences.

**Summary of Work:** A qualitative research design using a phenomenological approach was adopted. Participants (n=11) were purposively sampled from the clinical years of two medical schools in Singapore. Semi-structured interviews were used to elicit how their lived experiences have shaped their understanding, development and practice of empathy. Interview transcripts were analysed using interpretive analysis with an inductive approach to look for emerging themes.

**Summary of Results:** Empathy was understood to be putting oneself in the patient's shoes and seeing things from his/her perspective, and communicating and acting upon this understanding back to the patient. Empathy development was largely influenced in the clinical years by students' own experiences, observations of others and reflection. Students felt empathy is expressed through verbal and non-verbal communication, allowing patients to share in order to better understand their needs, demonstrating care and concern, and treating the patient as a person. Although students recognised the positive impact of empathy, they identified several barriers to the practice of empathy, including time constraints and medicine's focus on medical aspects of care.

**Discussion and Conclusions:** Participants seemed to have a good understanding of the broad concept of empathy. Clinical years appear to be critical in empathy development, through students' experiences with patients and healthcare professionals. Emotional detachment appears to remain widespread in medicine. Although empathy training has largely focused on cognitive empathy, more effort should be made to incorporate affective empathy training into the medical school curriculum through activities such as reflection, especially in the clinical years.

**Take-home Messages:** Empathy is a multifaceted concept. Medical students' clinical experiences influence their development and expression of empathy. Hence, educational strategies such as reflection should be implemented in the clinical years to foster empathy.

## #3GG Posters - Empathy and Ethics

### 3GG08 (1923)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Emotion regulation: A useful predictor of empathy in medical students

#### AUTHOR(S):

- Giulia Rampoldi, University of Milano - Bicocca, Italy (Presenter)
- Stefano Ardenghi, University of Milano - Bicocca, Italy
- Maria Grazia Strepparava, University of Milano - Bicocca, Italy

#### ABSTRACT

**Background:** Recent research has shown that emotion regulation (ER) is a predictive factor of academic performance and well-being in medical students. However, little is known about the specific relationship between difficulties in ER and empathy in the medical education context.

**Summary of Work:** This study was designed to determine whether difficulties in ER were associated with empathy in a sample of Italian second-year medical students. A negative correlation between difficulties in ER and empathy was expected.

**Summary of Results:** A convenience sample of 389 second-year medical students (female=207; main age=19.93, SD=1.39) completed the Jefferson Scale of Physician Empathy - Student Version (JSE-S), and the Difficulties in Emotion Regulation Scale (DERS) at the beginning of the academic year. To test the statistical association between ER difficulties and empathy levels, multiple linear regression was performed with the predictive analytics software SPSS 24 for Mac. Our research hypothesis was confirmed. DERS scores explained 8.4% variance in medical students' empathy. Controlling for the effect of gender and age, lack of emotional awareness ( $B=0.726$ ;  $p<0.001$ ) and lack of emotional clarity ( $B=-0.496$ ;  $p<0.05$ ) subscales showed a significant negative relationship with medical empathy scores.

**Discussion and Conclusions:** Difficulties in emotion regulation predicted empathy levels in medical students. Lack of emotional awareness and clarity negatively correlated with empathetic attitude.

**Take-home Messages:** For improving and maintaining students' empathy levels, medical educators should provide a set of ER strategies to their students during medical school. This would help them to be aware of their own and others' emotions during the emotionally demanding encounters with patients.

## #3GG Posters - Empathy and Ethics

### 3GG09 (2724)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Barriers to Expressing Empathy in Healthcare - A Literature Review

#### AUTHOR(S):

- **Shien Ru Tan, NUS Yong Loo Lin School of Medicine, Singapore (Presenter)**
- Chester Tan Guan Hao, NUS Yong Loo Lin School of Medicine, Singapore
- Yi Cheng Zhou, NUS Yong Loo Lin School of Medicine, Singapore
- Ying Pin Toh, NUHS Department of Family Medicine, Singapore
- Lalit Kumar Radha Krishna, NUS Yong Loo Lin School of Medicine, NCCS Division of Palliative and Supportive Care, Singapore
- Eng Koon Ong, Duke-NUS Medical School, NCCS Division of Palliative and Supportive Care, Singapore

#### ABSTRACT

**Background:** Studies on interventions to increase empathy have typically focused on healthcare professionals' (HCP) or students' self-assessed empathy. However, studies have showed that there are variable correlations between self-perceived empathy and observed empathy by patients. This review aims to identify key reasons and possible barriers that could result in this gap.

**Summary of Work:** A scoping review of empathy in healthcare was conducted following Arksey and O'Malley's (2005) framework. A literature search of databases PubMed, Cochrane, CINAHL, Scopus, PsycINFO was carried out looking at articles published between 1st January 2000 to 19th September 2018 in the English language. Articles involving barriers to empathy expression and papers investigating differences in self-perceived and observed empathy were selected. Data from selected articles were entered into a data entry spreadsheet and open coding and thematic analysis was carried out.

**Summary of Results:** 38,113 abstracts were retrieved from the initial search and screened for eligibility based on the selection criteria. Final selection of articles was settled upon based on negotiated consensus between the authors. Themes identified were broadly categorized into work-environment (e.g. task-centeredness, duration of interaction), HCP/student-related (e.g. lack of confidence), patient-related (e.g. language, cultural differences) empathy factors and scales used to measure empathy.

**Discussion and Conclusions:** The various multi-level barriers and reasons raised highlight the complexity of the HCP/student-patient relationship that could affect empathic communication between both parties. Current measures of empathy could be further investigated to better assess the complexity of this relationship so that changes can be made to aid empathetic communication. Empathetic communication is a dynamic, multi-factorial issue that would benefit HCP, students and patients. Evaluating the perspectives and difficulties faced by both parties is important to help bridge the gap in communication to maximize the benefits of empathy, hence promoting more usage of empathy in the clinical setting.

**Take-home Messages:** • Empathy improves patient satisfaction, better patient engagement and job satisfaction. • Empathetic communication is complex, with various multi-factorial barriers. Organizations and individuals need to consider these challenges and carefully monitor the HCP-patient relationship. • Interventions to increase empathy and scales measuring empathy should consider both HCP or students' self-evaluation and patients' perspective.

## #3GG Posters - Empathy and Ethics

### 3GG10 (2404)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A Literature Review of Empathy Theories

#### AUTHOR(S):

- **Tan Guan Hao Chester, NUS Yong Loo Lin School of Medicine, Singapore (Presenter)**
- Zhou Yi Cheng, NUS Yong Loo Lin School of Medicine, Singapore
- Tan Shien Ru, NUS Yong Loo Lin School of Medicine, Singapore
- Toh Ying Pin, NUHS Department of Family Medicine, Singapore
- Lalit Kumar Radha Krishna, NUS Yong Loo Lin School of Medicine, NCCS Division of Palliative and Supportive Care, Singapore
- Ong Eng Koon, Duke-NUS, NCCS Division of Palliative and Supportive Care, Singapore

#### ABSTRACT

**Background:** Empathy builds rapport between patients and doctors, while protecting against burnout. Yet many report that empathy levels drop throughout life in the medical sector. This review aims to provide a broad overview of various models of empathy, create deeper insight into the nature of empathy, and thus more effective methods of empathy training and practice.

**Summary of Work:** A literature search of databases (PubMed, Cochrane, CINAHL, Scopus, PsycINFO) was carried out looking at articles published between 1st January 2000 to 19th September 2018 in the English language. Articles relevant to empathy models and theories were selected for. Data from these articles were entered into a data collection spreadsheet and open coding and thematic analysis was carried out.

**Summary of Results:** In the initial search, 38113 articles were retrieved, using the agreed upon selection criteria to sieve, the final selection of articles was chosen. Models generally separate affective and cognitive empathy, with the former dealing with emotions and the latter dealing with thoughts, intentions, and beliefs. Different theories explain empathy from physiological or philosophical standpoints, though no consensus has yet been reached.

**Discussion and Conclusions:** Cognitive empathy generally falls into analytic and phenomenological stances, whereas affective empathy is understood less concretely, with greater discussion in this field. The self-other distinction that elevates emotional contagion to empathy is especially important in the prevention of emotional exhaustion and depersonalisation. Empathy is taken as an intrinsic good in a clinical setting, but a cohesive theoretical foundation for the inner workings of empathy is still currently underdeveloped. A better, more comprehensive understanding of empathy may be able to help develop personhood-targeted interventions to increase empathy levels but also prevent burnout.

**Take-home Messages:** • There are multiple theories about the ways in which we understand each other's emotions and thoughts. • Theories generally deal with either affective or cognitive empathy. • Personhood and the self-other distinction is important in protecting healthcare professionals against compassion fatigue and burnout.



## #3GG Posters - Empathy and Ethics

### 3GG11 (3350)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Impact of serious illness communication skills training on medical students' empathic attitudes and self-efficacy in empathic communication

#### AUTHOR(S):

- Jacqueline Yuen, The University of Hong Kong, Hong Kong (Presenter)
- Christopher See, The University of Hong Kong
- Tse King Cheung, The Chinese University Of Hong Kong
- Chor Ming Lum, Shatin Hospital
- Wai Tat Wong, The Chinese University Of Hong Kong

#### ABSTRACT

**Background:** Handling emotions is a common challenge for physicians when communicating bad news regarding serious illness. Communication training programs often focus on skills training, yet it is also important to assess their impact on other key determinants of behavior including attitudes and self-efficacy. This study aims to examine whether a serious illness communication training program can impact on medical students' empathic attitudes and self-efficacy in empathic communication.

**Summary of Work:** A one-week blended learning communication training program is delivered to sixth-year medical students (N=214) in 2018-2019. It consists of small group skills practice via role-play, and online training involving lectures, video-based exercises and reflective writing. A mixed-methods approach for program evaluation is used. Participants completed surveys with the Jefferson Scale of Empathy - Medical Students version (JSE-S) to assess attitudes toward empathy in patient care and self-rated preparedness in using specific empathic communication skills at baseline (T1), six weeks (T2), and between three to six months post-training (T3). Changes in mean JSE-S scores and preparedness levels were compared using paired t-tests. Qualitative data from written course reflections on the key lessons related to empathy were coded using thematic analysis.

**Summary of Results:** Analysis to date indicates mean JSE-S scores at T2 were higher (110.41 vs 113.5,  $P = .055$ ) and significantly higher at T3 (115.47,  $P = .017$ ) compared to those at T1. Self-assessed preparedness in using empathic communication skills was significantly higher at T2 compared T1 ( $P < .01$ ) and T3 compared to T2 ( $P < .02$ ). Content analysis categorized the key lessons around empathy into three themes: the skills in understanding the feelings of others, the skills in communicating empathy, and positive attitudes regarding empathic behaviors in patient care.

**Discussion and Conclusions:** Triangulation of data through a mixed-methods approach supports the effect of the communication training program on improving learner empathic attitudes and self-efficacy in empathic communication. The increase in mean JSE-S scores and preparedness levels from six weeks to between three and six months post-training supports the notion that these effects can be sustained and even enhanced long-term.

**Take-home Messages:** A blended learning serious illness communication training program can foster learners' development of empathic attitudes and self-efficacy in empathic communication.

## #3GG Posters - Empathy and Ethics

### 3GG12 (1872)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Creation and evaluation of a Massive Open Online Course (MOOC) on 'Developing Clinical Empathy'

#### AUTHOR(S):

- Elaine Mealey, St George's, University of London, UK (Presenter)
- Katherine Joekes, St George's, University of London, UK
- Angela Kubacki, St George's, University of London, UK
- Amy Spatz, St George's, University of London, UK
- Karen Lobb-Rossini, St George's, University of London, UK
- Sheetal Kavia, St George's, University of London, UK

#### ABSTRACT

**Background:** 'Online learning' is increasingly used within medical education and continued professional development. The authors created a free Massive Open Online Course (MOOC) on "Developing Clinical Empathy: Making a Difference in Patient Care". MOOCs are free-to-enroll, globally accessible online courses, allowing access to education in low income countries. There is an emphasis on online social learning, which offers the potential for rich engagement and discussion with diverse learner groups of a global and inter-professional nature. This presentation addresses development and evaluation of the MOOC.

**Summary of Work:** Creating a MOOC to support 'clinical communication' development for healthcare professionals (HCPs) runs counter to the principles of 'experiential learning' which forms the cornerstone of most clinical communication teaching. The course (4 learning hours over 2 weeks) provides a relevant knowledge base and is intended as a 'flipped classroom' learning resource for HCPs, to be used in conjunction with applied skill acquisition in the clinical workplace. Emphasis was placed on: introducing and defining 'clinical empathy'; recognising and responding to empathic opportunities; considering the challenges and benefits of developing an empathic practice; and attending to self-care. Learning objectives and teaching modalities within the MOOC were carefully aligned.

**Summary of Results:** Steps to complete the MOOC successfully will be addressed, including lessons learned for improving the planning, creation, delivery, evaluation and maintenance phases. Data on global participation showed that 1,374 learners from 113 countries embarked on the MOOC, with 416 (30%) learners completing ≥90% of the course. Analysis of the free text discussion fora and evaluation will provide further insight into the efficacy of the course.

**Discussion and Conclusions:** When creating a MOOC, attention needs to be paid to planning, evaluation and maintenance. The open access and social learning aspects of the course create a global learning environment, with active learners demonstrating a richer understanding of the concepts of clinical empathy and an opportunity to exchange ideas about why, when and how empathy can be demonstrated effectively within a consultation.

**Take-home Messages:** Creating a MOOC on 'Developing Clinical Empathy' is feasible and can have a place in education for HCPs globally.

## #3GG Posters - Empathy and Ethics

### 3GG13 (1194)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The effects of curriculum for improving empathy and reducing burnout in medical school

#### AUTHOR(S):

- Hyoung Seok Shin, Korea University Department of Medical Education, South Korea (Presenter)
- Young-Mee Lee, Korea University College of Medicine, South Korea
- Kangmoon Kim, Korea University Department of Medical Education, South Korea

#### ABSTRACT

**Background:** Physicians' empathy plays a crucial role to keep a positive relationship between physicians and patients and helps to improve patients' satisfaction and produce an effective performance for the patients. Medical educators have applied various empathy education programs to improve medical students' empathy level. However, studies have shown that burnout of medical students negatively can affect their empathy level. Therefore, in this study, we want to verify the correlation between the empathy of medical students and examine the effectiveness of empathy education programs for medical students.

**Summary of Work:** To measure medical students' empathy level, translated versions in Korean of the student version of Jefferson Scale of Physician Empathy (JSPE-S) and Interpersonal Reactivity Index (IRI) were used. To examine their burnout level, Maslach Burnout Inventory - Student Survey (MBI-SS) was used. 1293 medical students from 15 medical schools in South Korea participated in this study, and out of 1293, 313, 486, and 494 students were first-year, third-year, and fifth-year students, respectively. The authors examined the relationship between students' empathy level and burnout level and if there was a significant difference on JSPE-S, IRI, and MBI-SS scores among three different grade groups.

**Summary of Results:** In line with findings of previous research, it is verified that there was a negative correlation between medical students' empathy level and burnout level. Also, there was no significant difference in JSPE-S scores between three different grade groups. However, the results showed that first-year students' IRI scores are statistically higher than fifth-year students' scores. Also, first-year students' MBI-SS scores are significantly lower than third-year and fifth-year students.

**Discussion and Conclusions:** According to the results, senior students have a lower empathy level and a higher burnout level than junior students. For further analysis, the authors examined curriculum of each medical school to see if particular programs for medical students, including early clinical exposure, simulated patient program, are implemented and those are effective depending on when the programs are offered. Details will be discussed.

**Take-home Messages:** Providing various education programs for improving empathy level are important, however, the timing of delivery of education programs is more important.

## #3GG Posters - Empathy and Ethics

### 3GG14 (618)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Enneagram for medical students to nourish empathy

#### AUTHOR(S):

- Harutaya Kasyanan, Buddhachinaraj Hospital Medical Education Center, Thailand (Presenter)
- Sukanya Rakkhajeekul, Buddhachinaraj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Empathy is one of the core values of medical professionalism. Studying medicine amidst stress, hard work, and competition can cause medical students to have less empathy and be more self-centered. We organized activities that help nourish empathy throughout clinical years by teaching “Enneagram”, a system of nine personality types to better understand ourselves and others, through the process of self-awareness.

**Summary of Work:** We organized 2 days of enneagram classes for 4th-year medical students, 5 groups of 9-12 people, totaling 52 students. We did many self-reflections sessions and panel discussion to help each student examine which of the 9 personality types they are associated with. Key determinants include the pattern of feelings, thoughts, actions, potentials and limitations. After the activity, students voluntarily joined the in-depth interview on what they gain from this activity.

**Summary of Results:** From the answers of 24 students, everyone achieved better self-understanding, where 79% got more understanding and empathy for others and 58% better realized their strengths and weaknesses. 33% can accept people from different background more and hence perform better as a team member. 12.5% would be more able to understand psychological root cause of illness and empathize more with patients.

**Discussion and Conclusions:** All students understood themselves more and most of them understand others better. More than half could extend this knowledge for self-development and relationships. Some of them expressed that, when they accepted their own weaknesses as well as others more, they became more tolerant and compassionate towards each other. As for applying the experience to understanding and helping patients, only a few could see the connection because of the limitation of the 4th-year student as real-life doctors and the rather short 2-day period for this activity. But by observation, we found that when students realized their own defensive reactions and blind spots, they were likely to be more resilient, which will also promote both empathy and their mental health.

**Take-home Messages:** Enneagram, as a tool for self-awareness, can lead to personal growth, thereby enhancing medical professionalism and patient centered care teamwork.

## #3GG Posters - Empathy and Ethics

### 3GG15 (2979)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### In what ways do tutors intervene in simulated consultations to encourage empathetic communication in medical students?

#### AUTHOR(S):

- Luke Riceman, Barts and The London School of Medicine and Dentistry, UK (Presenter)
- Harvey Wells, Queen Mary, University of London, UK

#### ABSTRACT

**Background:** Empathy is recognised as an important characteristic of a good doctor, and medical schools are encouraged to facilitate their students in their empathetic development. However, whether empathy can truly be taught, and how best to do so, is still open to debate. While there are large amounts of research into empathy measurement instruments and the decline in empathy through medical school, there is less literature focusing on the views of communication tutors with regards to teaching empathy.

**Summary of Work:** 8 communication tutors of varying experience participated in semi-structured interviews. The aims of the interviews were to explore what empathy means to tutors, how they attempt to encourage empathy, and whether they think certain individuals are more susceptible to empathetic education. The interviews were transcribed and analysed for similarities and differences.

**Summary of Results:** The results may show that communication tutors share a view of what empathy means, and this may subsequently affect how they approach their teaching sessions. The tutors may all also have specific tactics they employ in order to get their students thinking more empathetically, in which case this information could be used to guide the development of medical school curricula in the future.

**Discussion and Conclusions:** It is hoped we will find a clear ideology shared by communication tutors with regards to empathy and can begin to form a clear outline of how best to educate our medical students. In 'Generic Professional Capabilities Framework' the term empathy is mentioned twice; once regarding its importance in maintaining the trust of patients, and again in regard to its use in establishing good doctor-patient communication. Empathetic doctors offer better care to their patients, and we should be striving to make our medical students more and more empathetic.

**Take-home Messages:** Empathy is a hugely important characteristic for a doctor to have, as having a genuine consideration and understanding of a patient's background leads to them providing a deeper, more holistic and personal standard of care. With an understanding of the thought processes of communication tutors delivering education on empathy, we hope to produce ever more empathetic doctors.



## #3GG Posters - Empathy and Ethics

### 3GG16 (1355)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Item Response Theory Analysis of the Jefferson Scale of Empathy (Student Version)

#### AUTHOR(S):

- Giovanni Piumatti, University of Geneva, Switzerland (Presenter)
- Milena Abbiati, University of Geneva, Switzerland
- Anne Baroffio, University of Geneva, Switzerland
- Margaret W. Gerbase, University of Geneva, Switzerland

#### ABSTRACT

**Background:** The Jefferson Scale of Empathy (JSE) is the most adopted self-reported tool in medical education research to assess empathy. Since empathy during medical studies is an important correlate of career choice, clinical competence and professionalism, this instrument has been adapted for medical students (JSE-S). Researches have psychometrically tested the JSE-S, but applications of Item Response Theory analyses (IRT) are missing. The current study tested the JSE-S using IRT to expand our knowledge on the psychometric characteristics of this instrument.

**Summary of Work:** At the Geneva medical school, 575 students (Mage=20.80 years, 64% females) enrolled to a preselection academic year filled in the JSE-S. Graded response modeling within IRT assessed JSE-S' total scale reliability and tested single items' performances in measuring students' empathy levels. This technique estimates the discriminative power of each item representing how well an item can be used to differentiate between different empathy scores, either high or low. It also assesses the threshold parameters of each item scoring point, namely the empathy score needed to have a 50% chance of scoring on a particular point or higher.

**Summary of Results:** JSE-S's set of items exhibited low standard error levels and high-test performance results to cover especially low levels of the empathy spectrum. The discriminative power of this instrument diminishes when aiming to differentiate between students at high empathy levels. Items' discrimination indexes ranged between -0.07 (i.e., "Physicians should not allow themselves to be influenced by strong personal bonds between their patients and their family members"), and 2.15 (i.e., "Asking patients about what is happening in their personal lives is not helpful in understanding their physical complaints") indicating that certain items may provide redundant information (lower values indicate poorer discrimination).

**Discussion and Conclusions:** Based on the overall standard error levels indicating how well an instrument measures the entire spectrum of a psychological self-reported trait, the JSE-S is confirmed a reliable tool to assess medical students' empathy. However, it better differentiates between students at low rather than at high empathy levels.

**Take-home Messages:** Certain JSE-S' items are particularly suited for tapping into high levels of the empathy spectrum.

## #3GG Posters - Empathy and Ethics

### 3GG17 (2902)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Using sociodrama techniques to enhance nursing students' emotional skills of ethical sensitivity

#### AUTHOR(S):

- Miao-Ju Chwo, Fu Jen Catholic University, Taiwan (Presenter)
- Gin-Hong Lee, Fu Jen Catholic University, Taiwan
- Ming-Teh Lin, Fu Jen Catholic University, Taiwan
- Ting-Chun Chen, Fu Jen Catholic University, Taiwan

#### ABSTRACT

**Background:** When nursing students participate in service-learning, they usually meet the people different from themselves. It is critical for them to have sensitivity and empathy toward service target.

**Summary of Work:** The study subjects were 132 students in the first-grade of the nursing department. The effect evaluation comes from the students' after-school qualitative feedback. The session included warm-up games based on communication and interaction, sharing a real story happened to them with peers in small groups, role-playing a volunteer student's story, using "double" to voice the roles empathetically in the story, reflection after role-playing and doubling.

**Summary of Results:** Coding of 132 students' feedback resulted in identification of three thematic categories: (1) Feeling as the protagonist When students played the protagonist in the story, they experienced a three-stage transition. At first, they felt nothing big deal. Then the negative emotions and feelings came and influenced them. At the end, they reconsidered their original thoughts and behaviors. (2) Thinking as an observer When students told "their" story and watched the classmates role-playing the roles of their story, they had the opportunity to review the context, thoughts, emotions and needs of the "self" and "the other party" in the story as a more objective observer. They discovered more context of the problem, non-verbal messages, and possible strategies. (3) "Reflection" on the service-learning: Students applied the learning experience to the service-learning, including they wanted to try to aware their prejudice in the progress of service, to consider the other's needs in others' context, to use non-verbal messages to better interact with the people they serve.

**Discussion and Conclusions:** These study findings are important for: (1) recognition of the importance of the course session prior to service-learning in helping students understand other people different from them; (2) encouraging research to focus on applying sociodrama techniques to develop emotional skills of ethical sensitivity.

**Take-home Messages:** It is difficult and challenging to understand others different from yourself. Role-playing and doubling the characters from students' own story helped them increase sensitivity and empathy toward people different from them by immersing them subjectively in the protagonist's emotions and rethinking the situation objectively in the position of observer.

## #3GG Posters - Empathy and Ethics

### 3GG18 (1225)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Scenario based, group discussions in teaching Ethics and Professionalism

#### AUTHOR(S):

- Li Nien Michelle Tan, National University Hospital, Singapore (Presenter)
- Yee Cheun Chan, National University Hospital, Singapore
- Roy Joseph, National University Hospital, Singapore

#### ABSTRACT

**Background:** There are limited studies on methods of teaching medical ethics and professionalism. We share our experience in the conduct of ethics and professionalism workshops for Year 2 Residents using a format of scenario based, small group discussions and simulations guided by senior clinicians and ethicists. The workshop's objective is to increase their knowledge, skills and attitudes to responding to ethical and professional issues in the work environment. This format offers the theoretical advantage of contextual and collaborative learning. Group discussions provide diverse perspectives that prompt reflective learning. Simulations allow safe development of practical skills and build confidence and expertise.

**Summary of Work:** Eight full day workshops have been conducted using this format since November 2016 in the National University Hospital in Singapore. The workshop focuses learning in 5 core topics; consent and shared decision making, confidentiality, care at the end of life, relating to colleagues and managing adverse outcomes. Residents are given a condensed pre-session reading material. During the session, a short introduction of each topic is given and this is followed by small group discussion and role-playing the resolution of cases relevant to the topics.

**Summary of Results:** The perception of learning across the 5 domains were ascertained through an evaluation form offered to each participant at the end of the workshop. The domains were the inter-activeness of the session, stimulation of self-directed learning, relevance, advancing of clinical decision-making skills and the increase in confidence in managing ethical and professional issues. There were 193 participants in all and the response rate was 86%. The mean ratings for each of the domains on the 5-point Likert scale were 4.6, 4.5, 4.5, 4.4 and 4.4 respectively and the overall was 4.46. A consistent non-structured feedback was the usefulness of the realistic clinical vignettes and the group discussions.

**Discussion and Conclusions:** Small group discussions and simulated resolutions of relevant case scenarios involving ethical and professional issues were reported to be useful by junior residents.

**Take-home Messages:** Case-based and guided small group activities are useful in the teaching of medical ethics and professionalism to residents.

## #3GG Posters - Empathy and Ethics

### 3GG19 (1486)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Dialogues in the Group for Fundamental Nursing Practicum

#### AUTHOR(S):

- Jen-Juan Liaw, School of Nursing, National Defense Medical Center, Taiwan (Presenter)
- Luke Yang, Department of Social Welfare and Social Work, Hsuan Chuang University, Taiwan,
- Hsien-Hsien Chiang, School of Nursing, National Yang-Ming University, Taiwan
- Yu-Lun Tsai, School of Nursing, National Defence Medical Centre, Taipei, Taiwan

#### ABSTRACT

**Background:** The value of education does not only achieve instrumental learning, but learning of life meaning. As educators in nursing, we do not just teach our students technical knowledge and skills, but also help them build personal and ethical knowledge. The study purpose was to use focus groups as a teaching method to help students experience meaning of life and care after fundamental nursing practicum (FNP).

**Summary of Work:** We used purposeful sampling to conduct four sessions of focus group with free association discussion after FNP. Each session lasted 50 minutes, and included 14-15 sophomore nursing students who voluntarily attended inner and outside circles of group (fish bowl). The teacher was a facilitator to hold and contain this group. Students freely talked their feelings here and now, and experiences during practicum. Dialogues in groups were recorded, transcribed word by word, and analyzed by using content analysis.

**Summary of Results:** Three themes were developed as the following: (1) Over judgement vs. self-kindness: "I am not good at skills, my patient cough severely while suction. After practicum, I cry and lose my temper. I need to well prepare myself next time". (2) Technique oriented vs. meaningful oriented learning: "At the beginning, I expect to have more opportunities to perform nursing skills. Later I found that this is not so important. The important is that I can well prepare myself and learn nursing". (3) Then & there vs. here and now: "We are considered as barriers without any functions. However, group dialogues help me perceive the importance of my existence"

**Discussion and Conclusions:** The results suggest that empathy is not intellectual learning, and may not learn through teaching. Empathy need experiential and embodied learning. The role of teaching needs to provide the embodied learning environment. The groups respect students, and let them generate their creativity and spontaneity. Dialogues of focus group help students reflecting their learning experience, and meaning of life, the importance of their existence, and enhancing empathy on others.

**Take-home Messages:** Focus group with free association discussion is one of the teaching methods to build personal and ethical knowledge for nursing students.

## #3GG Posters - Empathy and Ethics

### 3GG20 (3416)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

## Analysis of the attitude towards concordance in the future students' work environment

### AUTHOR(S):

- **Agata Stalmach-Przygoda, Department of Medical Education Jagiellonian University Medical College, Poland (Presenter)**
- Łukasz Małecki, Department of Medical Education Jagiellonian University Medical College, Poland
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- Grzegorz Cebula, Department of Medical Education Jagiellonian University Medical College, Poland

### ABSTRACT

**Background:** The principles of doctor-patient relations have been changing over last decades. In the past, it seemed to be sufficient if the patient followed the recommendations of the doctor (compliance). Currently, the patients have taken on more decision-making and take more responsibility for the treatment (concordance). While constructing a curriculum at Jagiellonian University Medical College, we wish to adapt our courses to the needs of patients. Therefore, the goal of this study was to assess Polish doctors' and patients' attitudes to concordance.

**Summary of Work:** An anonymous questionnaire was conducted among doctors and patients. The Leeds Attitude Towards Concordance II (LATCon II) scale was the core of the questionnaire. Respondents also answered the question of the reasons why (in their opinion) patients do not follow medical recommendations.

**Summary of Results:** The survey was completed by 126 doctors and 46 patients. The average LATConII score for doctors was 40.2 and for patients 35.7. The difference between these averages is statistically significant. Polish patients attitudes toward concordance are less positive than those of doctors. As to the primary reasons for non-compliance, doctors indicate the responsibility lies mainly on the patients side (64%), doctor's side (20%), or caused by the system (16%). As to the primary reasons for non-compliance, patients report reasons lying mainly on the patient's side (68%), doctor's side (25%), by the inconvenience of therapy (4%), and caused by the system (2%).

**Discussion and Conclusions:** A preliminary analysis of the attitudes of doctors in Poland indicates a relatively positive attitude to concordance. At the same time, it reflects their perception that the patient is responsible for not following the medical recommendation and that there is ineffective cooperation between a physician and a patient. Widespread beliefs in the medical community can influence and shape student attitudes. It seems that the optimal method of teaching concordance consists of attitudes that do not overly blame either doctors or patients.

**Take-home Messages:** While integrating shared decision making and concordance elements into education, it is useful to know the types of attitudes that students may encounter in their future work place in order to adapt the teaching methods to the needs of this community.



## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH01 (1318)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

**Assessment of clinical performance of internal medicine residents utilizing a structured evaluation form that focuses on the six domains of ACGME core competencies:  
Experience at a medical center**

#### AUTHOR(S):

- **Cheng-Han Wu, National Taiwan University Hospital, Taiwan (Presenter)**
- Po-Yuan Chang, National Taiwan University Hospital, Taiwan
- Ming-Shiang Wu, National Taiwan University Hospital, Taiwan

#### ABSTRACT

**Background:** Assessment of clinical performance of resident trainees is essential during the training course. Analysis of these data could offer valuable insights and opportunities of implementing changes in medical education.

**Summary of Work:** Internal medicine residents were evaluated on a monthly basis utilizing a structured evaluation form by faculty members who supervised them. The form included 3-5 items under each of the six Accreditation Council for Graduate Medical Education (ACGME) core competencies and a global assessment scale. Scoring values were as follows: Excellent = A (score 90-100), Good = B (75-90), Fair = C (60-75), Poor = D (45-60), very poor = E (<45). A global score (range 1-100) and a comment column were also included.

**Summary of Results:** From August 2013 to July 2018, faculty members returned 9334 evaluations on 187 internal medicine residents during their residency years 1-3. The average domain score in each of the six ACGME core competencies for the participants in each year of residency were calculated. The average domain scores were as follows: Patient Care (PC): 85.38, Medical Knowledge (MK): 84.02, Practice-Based Learning and Improvement (PBLI): 85.12, Interpersonal and Communication Skills (ICS): 86.15, Professionalism: 86.01, and Systems-Based Practice (SBP): 84.49. Pairwise correlation analyses showed high positive correlation between these six clinical domains ( $p < 0.0001$  for each comparison with Bonferroni adjustment). The correlation coefficients ranged from 0.7845 to 0.9144 and the lowest correlation was noted between the domain of MK with that of ICS (0.7845) and between the domain of MK with that of Professionalism (0.7962). Moreover, significant improvement of clinical performance between residency Years 1 and 2 and between years 1 and 3 were noted in the six ACGME core competency except for the ICS domain ( $p < 0.05$ ). There was no difference of performance in the ICS domain across years of training.

**Discussion and Conclusions:** This study revealed clinical performance in MK domain is less correlated with that in either ICS or professionalism domain. Improvement in performance were demonstrated across years of training in the six ACGME core competency except for the ICS domain.

**Take-home Messages:** This structured evaluation form is a useful tool for the assessment of clinical performance of residents.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH02 (2693)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Flipped Evaluation Form - A Simple Solution For Better Evaluation Results?

#### AUTHOR(S):

- Wee Khoon Ng, National Healthcare Group, Singapore (Presenter)
- Selvia Kosim, National Healthcare Group, Singapore
- Lijing Melody Kuan, National Healthcare Group, Singapore
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- Chia Li Ann, Faith Chia, National Healthcare Group, Singapore

#### ABSTRACT

**Background:** The National Healthcare Group Internal Medicine residency programme uses Monthly Performance Evaluation (MPE) form to evaluate residents' performance in six ACGME-I competencies, which consists of five parts (in sequence): competency evaluation (using 9-point Likert scale), work output assessment, overall clinical competency (using R.I.M.E. framework), global assessment and qualitative feedback. A review of the residents' MPE results discovered discrepancies between residents' competency evaluation scores and the overall clinical competency, with limited qualitative feedback from the assessor.

**Summary of Work:** We introduced a new flipped MPE form, with the overall assessment questions at the start: overall clinical competency as the first question, followed by global assessment, written feedback, competency evaluation, work output assessment and lastly competency evaluation. The assessors must decide on residents' overall competency first, which aids to frame their minds to answer the subsequent questions to justify their decision. We aim to improve the quality of the completed evaluation forms and encourage more qualitative feedback.

**Summary of Results:** The results from "flipped form" for January to March 2018 were compared against the results from original form for October to December 2017 and the qualitative comments were analysed. 231 MPEs were received for the former and 215 MPEs for the latter period. Average word count for qualitative comments for original MPE form is 20.22, and 20.78 for "flipped form". However, sub-analysis revealed slight reduction (6.67%) in the number of words written for 'strengths and areas resident has performed well', but significantly increased number of words written for 'areas in need of attention' and 'actions agreed upon', 9.26% and 29.77% respectively, with the new form.

**Discussion and Conclusions:** The "flipped form" is a simple method that helps assessors frame their mindset and answer the subsequent questions to justify their global assessment. It likely reduces assessor fatigue and encourages assessors to provide more qualitative comments and recommend actionable goals, which will be useful for resident improvement.

**Take-home Messages:** Sequencing global assessment questions and qualitative feedback before detailed assessment of residents' competencies, is a simple but useful method to gather better evaluation results.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH03 (1918)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Embedding authentic and diverse assessments into postgraduate medical curriculum - Getting students to perform real life tasks in the classroom setting

#### AUTHOR(S):

- Latha Ramakrishnan, Imperial College London, UK (Presenter)
- Anna Maria Jones, Imperial College London, UK
- Jeffrey Vernon, Imperial College London, UK
- Sophie Rutschmann, Imperial College London, UK

#### ABSTRACT

**Background:** Imperial College London is implementing an ambitious Learning and Teaching Strategy that aims to prepare students “for an increasingly diverse and complex future work environment”. This necessitates curriculum review and redesign of all undergraduate and postgraduate courses across the college. The Faculty of Medicine offers 28 Masters programmes in diverse biomedical fields, 16 of which are healthcare related.

**Summary of Work:** Traditionally most of our academic programmes have assessed using closed book exams. Higher order cognitive skills like creativity, evaluation and critiquing are expected of postgraduates (level 7 QAA UK), which the stereotypic essays are often unable to meaningfully test. More importantly, essays and MCQs are NOT authentic tasks that our graduates will perform in their day-to-day jobs. Finally, diverse assessments need to be incorporated into the curriculum to encourage inclusivity. We, the Faculty education team, have been working closely with all the programme teams to redesign their assessment strategies.

**Summary of Results:** We have: replaced several traditional essays with problem-solving exams that require integration of advanced concepts; moved away from closed booked exams to course-work/open-book exams; diversified the nature/type of assessments; incorporated formative assessments as feed-forward to develop/practise skills at individual/team settings; introduced more authentic tasks as assessments. Examples: hospital newsletter; patient leaflet; poster/oral presentations; debates; grant proposal; lay summaries; public engagement; critical appraisal; reflective report; conference proceedings etc. Specific examples and alignments with learning outcomes will be discussed in the presentation.

**Discussion and Conclusions:** It has been challenging to convince some academics to move away from closed book essays. Staff confidence plays an important role in this. While some programmes have incorporated authenticity directly into their summative assessments, others will pilot them as formatives. Task-based assessments can help cut down marking times and subjectivity. This in-turn should improve the quality and turn-around time for feedback. Curriculum Review also aims to improve staff work-load and student feedback scores. We will be evaluating the impact of changes in the coming years.

**Take-home Messages:** In preparation for jobs that don't exist yet, our graduates should be able to provide creative solutions to open-ended problems. Careful embedding of diverse and authentic assessments into the curricula is the first step towards achieving this goal.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH04 (3268)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Influence of context on novice versus expert rater judgments of competence

#### AUTHOR(S):

- Anita Acai, McMaster University, Canada (Presenter)
- Ranil Sonnadara, McMaster University, Canada

#### ABSTRACT

**Background:** Competence committees (CCs) make decisions about residents' readiness for promotion to the next stage of training and responsibility; however, little is known about how this occurs in practice. In this study, we investigated CC decision making using a set of simulated resident files administered to both novice and expert raters.

**Summary of Work:** Sixty undergraduate psychology students (51 females; 9 males) and 20 competence committee members (12 females; 8 males) completed the study. Undergraduate students did not have any prior experience in making promotion decisions. Competence committee members were primarily physicians with nearly half reporting over 5 years of experience with resident promotion processes. Individually, each participant was administered 42 simulated resident files containing either performance data only (control) or performance data in combination with contextual information (e.g., information about the raters, the resident's professionalism, the resident's personal circumstances, or the participant's prior experiences with the resident). For each case, participants determined whether or not they would promote the resident in question.

**Summary of Results:** Contextual information that was inconsistent with resident performance led expert raters to become significantly more stringent in their decision making while novice raters could become either more stringent or more lenient, depending on the information provided. For example, learning that a resident had been unprofessional despite meeting or exceeding the formal requirements for promotion resulted in promotion 35% of the time for novices and 54% for experts, compared with 88% and 96% of the time in the control conditions, respectively. However, being told about a prior positive experience with a resident who did not meet the formal requirements for a promotion resulted in promotion 13% of the time for novices but 0% of the time for experts, compared with 2% of the time and 0% of the time in the control conditions, respectively.

**Discussion and Conclusions:** Contextual information about a resident or rater appears to influence decision making among both novice and expert raters in a simulated CC environment, albeit in a slightly different manner. These findings set the stage for continued work on how CCs make decisions in practice and reinforce the value of the group decision making in this context.

**Take-home Messages:** As above.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH05 (1345)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The implantation of an electronic assessment system improves the quality of clinical competency committee (CCC)

#### AUTHOR(S):

- Chih-Cheng Chien, Cathay General Hospital, Taipei, Taiwan & School of Medicine, Fu-Jen Catholic Univ, Taiwan (Presenter)

#### ABSTRACT

**Background:** When running CCC, there are three common problems hinder its efficacy in improving the competency of trainees. First, information offered by current hard-copy based assessment forms is not detail enough, especially the qualitative description. Second, some faculties are unable to assess trainees effectively and not providing useful information to CCC. Third, some trainees who have subtle problems which won't be picked up in any single assessment but are obvious when all the assessment are examined together in CCC, are unable to achieve better since current assessment system can't identify them earlier. To improve the quality of CCC systemically, our education management system started this project.

**Summary of Work:** Through effective faculty development, we urged our faculties work with IT department to develop an electronic assessment system which can be easily assessed using personal cellular phones. When logged in using ID and passwords, faculties can assess trainees whenever and wherever suitable. As for qualitative description, faculties can literally "talk" to CCC since the speech input function offered by any cellular phones can record their observations completely without the frustration of typing. The system can also monitor the quantitative data input by every faculties and alarm as designed. If a certain faculty rates trainees with no discrimination or if certain trainee is rated to be relatively poor consistently through serial assessments, the chair of CCC will be alarmed and proper actions can be triggered whenever needed. The institution education management system can also monitor all these events effectively.

**Summary of Results:** We have applied this system for months. Some actions have been reported by CCC which they consider to be not possible without the help of this system. More data are coming in and will be presented in the conference.

**Discussion and Conclusions:** We also apply this system for medical education other than physicians, such as pharmacists and nurses. Although certain medication is needed, the system works as well. The implantation of such an electronic assessment system improves the efficacy of assessment, and therefore the quality of CCC.

**Take-home Messages:** Technology can enhance not only learning, but also the quality of CCC.



## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH06 (765)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Group assessment of junior doctor's skills in internal medicine fosters learning for all the attending doctors in the department

#### AUTHOR(S):

- Hanne Storm, Diagnostic Centre Silkeborg, and Centre for Health Science Education, Aarhus University, Denmark (Presenter)
- Birgit Larsen, Diagnostic Center, Denmark
- Rene Nielsen, Corporate Quality, Denmark
- Bente Malling, Centre for Health Sciences Education, Aarhus University, Denmark

#### ABSTRACT

**Background:** Assessment using Case based Discussion traditionally includes a one-to-one discussion with a supervisor. This entails a subjective and maybe unequal assessment of the trainees, which can only be overcome with the use of many assessors. The purpose of this study was to explore trainees' and supervisors' perception of a group-assessment concept.

**Summary of Work:** All 10-15 junior doctors in the department met 4 times for 5 hours over 1 year. Each junior doctor presented a case in internal medicine and discussed it with peers and supervisors (diagnosis, differential diagnosis, ethical considerations etc). Four supervisors (specialists in internal medicine) participated in the discussion and together assessed the junior doctor. An external consultant observed the group-assessment several times and conducted semi-structured interviews with the junior doctors as well as the senior doctors. Notes from the observations and the transcribed interviews were analysed using an inductive approach looking for participants' perceptions of the concept.

**Summary of Results:** Both junior doctors and supervisors preferred the group assessment to the individual assessment. The level of discussion was higher in the group compared to one-to-one discussion. All junior doctors gained new knowledge during their assessment but also reported to have learned from listening to the assessment of their peers. Supervisors reported to have gained new knowledge as well.

**Discussion and Conclusions:** Group assessment of junior doctors' professional skills in internal medicine fosters learning for all participating doctors in the department. It is a good way to structure assessment of professional skills, compared to individual assessment. The quality of assessment probably is increased and more objective.

**Take-home Messages:** Group-assessment is feasible and acceptable, and preferred by both junior doctors and supervisors.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH07 (139)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### **Trios-OSCE-based simulation course enhances the sub-competency of “Emergency-Stabilization” for postgraduate year-1 resident**

#### **AUTHOR(S):**

- **Ying-Ying Yang, Taipei Veteran General Hospital, Taiwan (Presenter)**
- Chia-Jui Su, Taipei Veteran General Hospital, Taiwan
- Sheng-Wei Pan, Taipei Veteran General Hospital, Taiwan
- Ling-Yu Yang, Taipei Veteran General Hospital, Taiwan
- Fa-Yuah Lee, Taipei Veteran General Hospital, Taiwan

#### **ABSTRACT**

**Background:** For patient safety, this study aims to evaluate the effectiveness of additional OSCE-based medical simulation course on establishment the “emergency-stabilization” sub-competency of post-graduate year-1 (PGY-1) residents.

**Summary of Work:** In simulation course, trainees were randomly divided into intervention, regular or control group as Trios-OSCE trainees, single-OSCE trainees or OSCE observer (feedback-giver) after pre-OSCE common simulation workshop. Three PGY-1 residents rotate the Trios-long-OSCE station together, single PGY-1 resident rotates regular OSCE alone whereas control group giving feedback after observation of peers OSCE performance. Using queens simulation assessment tool, either in Trios-OSCE or single-OSCE, performance levels, either Inferior, novice, competent, advanced or superior, of trainees in the “therapeutic actions” and “communication” domains, “overall performance” were graded by qualified assessors, experienced facilitators and standardized senior nurse.

**Summary of Results:** The proportion of “overall performance” of trainees whose rated by “experienced facilitator” as “above competent level” was significantly higher in intervention group A than those in regular group B. After training, the degree of increase in self-efficacy scores was highest among intervention group than regular and control group. At the follow-up stage, the increasing trend of self-efficacy score were noted both in interventional and regular group. For all trainees among three groups, high post-course and follow-up course value scores confirm that new Trio-OSCE model meet the needs of trainees and motivated the self-directed learning and self-reflection of trainees. At the 6-week follow-up stage, higher proportion of interventional group trainees apply learnt “therapeutic actions” and “communication” skills from course in practice. This supported by the observation of higher “always” and “always+frequently+often” proportions of application in intervention group than the other two groups.

**Discussion and Conclusions:** Our results provide initial evidence that new “emergency-stabilization”-enhanced Trio-OSCE-based medical simulation course, with good training capacity by including observer group, had positive effects on PGY-1 residents’ self-efficacy and clinical transfer

**Take-home Messages:** the emergency-stabilization simulation offers opportunities for PGY-1 residents to build therapeutic action and communication skills. In a typical simulation course including workshop and OSCE (especially Trios-OSCE), PGY-1 residents self-efficacy increased with training, the improvement was associated with positive response to the course and high degree of clinical transfer.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH08 (357)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Perceptions of assessment and feedback: hawks, doves and impact on learning

#### AUTHOR(S):

- Kaif Pardhan, Sunnybrook Health Sciences Centre & McMaster Children's Hospital, Canada (Presenter)
- Linda Jones, University of Dundee, UK
- Christopher Watling, Western University, Canada

#### ABSTRACT

**Background:** Residency training takes place in a work-place learning environment. Residents may work with several supervisors over the course of their training and each will provide feedback and assessments to them. Each supervisor may have a different approach to the delivery of their feedback and may deliver different assessments for the same quality of performance. Research question: among residents who receive regular feedback how do different styles of feedback by supervisors impact the residents' learning?

**Summary of Work:** A qualitative methodology was used. Participants were residents from residency programs that have routine one-on-one feedback and assessment. In depth, semi-structured one-on-one interviews were conducted by the primary investigator (PI). These were then transcribed, reviewed and coded. The participants were University of Toronto and McMaster University residents. Sample size will be determined by thematic saturation and data collection is ongoing. The interview guide was updated in an iterative fashion to further explore themes generated in the initial interviews. Interview transcripts will be reviewed and coded by the PI with assistance from collaborators with qualitative methodological expertise.

**Summary of Results:** Analysis of the first six participants revealed five themes. Residents described remembering feedback that generated a strong emotional response, both positive and negative; reflection on feedback as a component of using feedback for learning was consistent; reconciling feedback received that was in conflict with previously received feedback; relationship with the individual providing the feedback impacted feedback interpretation; feedback was parsed by residents to determine the rationale of the assessor and whether to incorporate feedback into learning process.

**Discussion and Conclusions:** How residents use feedback to further their learning is variable. This study identifies that styles of feedback, emotional response and relationship with the provider are all contributors to the learning that occurs after a feedback encounter. It also identifies that residents reflect on feedback differently and make decisions about how to incorporate feedback into their learning and practice.

**Take-home Messages:** The individuality of these responses to feedback are important for trainee self-reflection in furthering their learning as well as important in faculty development as they develop skills in assessment and feedback. It is also important for training programs that facilitate the trainee supervisor interactions.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH09 (3009)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Residents' View of Performance Feedback during Training in a Nigerian Teaching Hospital

#### AUTHOR(S):

- Fadekemi Oginni, Dept of Medical Education, University of Illinois, Chicago, USA (Presenter)
- Ara Tekian, Dept of Medical Education, University of Illinois, Chicago, USA
- Yoon Soo Park, Dept. of Medical Education, University of Illinois, Chicago, USA

#### ABSTRACT

**Background:** Feedback in Health Professions Education (HPE) is the cornerstone of effective clinical teaching and an important driver of learner improvement. There is a marked paucity of feedback culture and literature on types of feedback practices in Nigeria and from the African continent more broadly. This study seeks to understand resident doctors' perception of feedback in their training experiences. Findings will be compared with subsequent real life observations.

**Summary of Work:** A survey questionnaire inquiring about resident doctors' feedback experiences (type and frequency) and expectations was administered to all resident doctors in Obafemi Awolowo University Teaching Hospital (OAUTH). Descriptive statistics was used to examine trends in data and to interpret findings.

**Summary of Results:** Among 248 questionnaires distributed, 126 were available for review at the time of generating this report. Respondents were mostly Senior Registrars (Pre-part 2; 57.1%) and rarely Senior registrars at Post part 2 level (10.3%). 78% had completed over 75% of their rotations. The best feedback experiences were reported mostly in residents' primary specialty (62.2%). The experiences were characterized by specific content, clear indication of what was done correctly, and trainers discussion of what can be improved upon. Verbal feedback with face-to-face discussion was the residents' most common experience (53.6%); however, majority (60.5%) preferred multisource and written feedback. Feedback occurred mostly within 24 hours of the activity (91%) and was focused on medical Knowledge and procedural skills, but rarely on global performance, multiple competencies, reflection or self-assessment. Trainees identified rooms for improvement in the trainers' knowledge of educational methods, effective communication skills, availability and feedback structure.

**Discussion and Conclusions:** Residents in OAUTH are conscious of ongoing timely performance feedback delivery from their trainers, but not in their most desired form. Trainers may benefit from education on feedback methods and institution of a structure for performance feedback delivery in OAUTH. The proposed observational study would further enlighten developments to enhance effective feedback. Providing actionable and timely feedback to residents in OAUTH will benefit from a clear structure.

**Take-home Messages:** There is a need to introduce a clear structure into performance feedback methods employed in the training of resident doctors in OAUTH.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH10 (2149)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The 360-Degree Performance Assessment Implementation on Cardiology and Internal Medicine Residency Programs

#### AUTHOR(S):

- Rosiane Diniz, UFRN, Brazil (Presenter)
- Julio Cesar Sousa, UFRN, Brazil
- Cesimar Nascimento, UFRN, Brazil
- Cristiane Pita, UFRN, Brazil

#### ABSTRACT

**Background:** Performance assessment for medical residents is mainly focused on cognitive and clinical performance rather than behavior assessment. The 360-degree assessment allows to assess individual competency. The objective of this study was to report challenges in the of 360-degree assessment implementation on a Brazilian Cardiology (CRP) and Internal Medicine Residency Program (IMRP)

**Summary of Work:** The Cardiology and Internal Medicine Residency Programs were reviewed to identify the methods of resident's assessment. A course to train preceptors and professors in the 360-degree assessment was conducted

**Summary of Results:** The initial diagnosis identified that both programs almost exclusively assess cognitive performance of residents. Most of clinical staff was not comfortable with different formats of resident's assessment. Residents also were not used to perform self (SA) and peer review assessment (PRA). The training course was focused on the use of Mini CEx as a tool to assess the resident's performance. 70% of CRP preceptors team were trained and began to assess residents using Mini CEx. Only 11 from 20 residents performed self and peer review assessment. X residents were assessed by patients.

**Discussion and Conclusions:** There is a lack of staff training on competency assessment. Residents are not used to SA or PRA, which are the key point to be faced to implement 360-degree assessment in residency programs. It occurs because most physicians has never experienced this kind of assessment during their medical education. The clarification on 360-degree assessment purpose, the involvement of hospital/academy staff and assessment guidelines are essentials to implement multi sources assessments.

**Take-home Messages:** The 360-degree assessment in medical residency is complex and requires staff and resident training.



## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH11 (1321)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of a structure debriefing assessment tool for health care event: The Pearl of Wisdom tool (POW tool)

#### AUTHOR(S):

- Yi-Chun Chen, Taipei Medical University Hospital, Taiwan (Presenter)
- Jen-Chieh Wu, Taipei Medical University Hospital
- John O'Donnell, Pittsburgh University, USA
- Paul Phrampus, UPMC, USA

#### ABSTRACT

**Background:** Faculty-lead debriefing is a core element of experiential learning. The pearl of debriefing is to facilitate the learners on reflecting their action, figuring out “What, How and When” it happened, understanding “Why” it happened, and developing effective management for the patient care. The objective is to develop a structural debriefing assessment tool for health care professionals.

**Summary of Work:** A framework built for the debriefing assessment instrument, constructed based on a comprehensive search of contemporary literature and the debriefing experiences of expert group. Then, we developed the instrument using the modified Delphi process. 10 experts with specialty in debriefing and medical education from America, Singapore, Taiwan and China were invited to our external expert panel. A total four rounds of Delphi process were conducted in 18 months with more than 90% response rate and reached 8.61 consensus-score out of 9 points.

**Summary of Results:** The final debriefing assessment tool includes four categories with 14-item questions. The first part: Setting-up/Initiate section with 4 items: 1. Asks students if they are comfortable and ready to begin debriefing, 2. States ground-rules for the session to establish a positive learning environment 3. Asks questions to gather information on what participants believe occurred in the session 4. Acknowledges participant statements of performance. The second part: Analyze/Cover objectives with 4 items: 5. Maintains debriefing focus on scenario objectives or key actions/behaviors 6. Promotes participant reflection through use of questions and guided conversation 7. Facilitates the process of understanding performance. 8. Helps students to close knowledge, attitude or skill (KAS) GAPS. The third part: Summary/Take-home with 3 items: 9. Reviews key simulation events 10. Identifies actions which were effective and need improvement 11. Clarifies which events during the simulation were most important. The last part: Skills crossing all phases including 3 items: 12. Organizes the debriefing conversation 13. Utilizes effective verbal techniques during facilitation 14. Uses effective non-verbal techniques during facilitation.

**Discussion and Conclusions:** The Pearl-of-Wisdom tool provided a means for the evaluators and debriefers to discuss the observed performance which could be used as a powerful faculty development tool. The inter-rater reliability is tested now.

**Take-home Messages:** Pearl-of-Wisdom tool could be a powerful tool for faculty development.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH12 (2468)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Improving Feedback for Students: Encouraging Student Agency and Self-advocacy

#### AUTHOR(S):

- **Hannah McGinness, University of Sydney, Australia (Presenter)**
- Patrina Caldwell, University of Sydney, Australia
- Hasantha Gunasekera, University of Sydney, Australia
- Karen Scott, University of Sydney, Australia

#### ABSTRACT

**Background:** Student dissatisfaction with feedback on clinical placements is common despite feedback training for teachers. Brief placements are particularly challenging, due to limited time for skill observation and development of learning relationships. We aimed to determine whether a feedback workshop for medical students improves their seeking of and satisfaction with feedback.

**Summary of Work:** Following exploratory student focus groups, we developed a feedback workshop for University of Sydney medical students undertaking their Paediatric placements (3 x 2 week clinical attachments). It encouraged student agency and self-advocacy in obtaining feedback and provided specific tools to aid feedback seeking, recognition and utilisation. The workshop was piloted with an initial group of 10 students, and implemented for all students in 2 subsequent cohorts. Training was evaluated with focus groups and pre/post surveys in the initial cohort (pilot and control groups) and 2 subsequent cohorts. Likert-scale quantitative data was analysed with descriptive statistics. Bandura's social learning theory informed thematic analysis of qualitative data on student feedback behaviour.

**Summary of Results:** Pre- and post-survey data analysis of the first full cohort implementation showed the percentage of students satisfied with overall feedback, quality of feedback and quantity of feedback, and the percentage of students seeking feedback at least weekly improved (p values <0.05). Pilot group results were statistically significant only for satisfaction with overall and quality of feedback. None of the control group results were significant. Final cohort analysis is pending. Thematic analysis found students who attended the feedback workshop reported increased confidence in seeking feedback. For some this resulted in behaviour change, with students requesting feedback in situations where they previously would not have. The specific feedback tools did not result in improved student feedback behaviour.

**Discussion and Conclusions:** After the first full cohort workshop, students sought and received feedback more often with greater confidence and were more satisfied with the feedback received. Similar trends were seen in the pilot group but were only significant for some outcomes.

**Take-home Messages:** As an adjunct to teacher feedback training, student workshops may improve self-advocacy in obtaining feedback and feedback satisfaction. This may be particularly important for brief attachments where feedback challenges are amplified.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH13 (2623)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Feedback Culture in Medical School: An Observational Study of Non-verbal Cues in Simulated Communication Skills

#### AUTHOR(S):

- Kudzai Sibanda, Queen Mary University of London, UK (Presenter)

#### ABSTRACT

**Background:** Certain aspects of medical culture, such as the power dynamic between tutor and student, are barriers to students receiving constructive feedback. A large amount of communication is non-verbal, so I aimed to observe the student-tutor behaviour surrounding feedback. I was curious how tutors balance giving critical feedback with building confidence and how students experience this feedback on an emotional level. To what extent does feedback culture in medical school influence behaviour in simulated communication skills practice?

**Summary of Work:** This is an observational qualitative study focused on the feedback interactions between 6 medical students and 3 tutors in 3rd year simulated communication skills sessions. Data was collected via narrative non-participant observation using extensive field notes and continuous recording. I then conducted semi-structured interviews with the participants. The observational field notes helped shape the interview questions, to explore whether my observations reflected the experience of the participants. Using observation and interviews facilitated triangulation of the data increasing the validity and depth of the study.

**Summary of Results:** I used thematic analysis to identify congruent themes found in the interview transcripts and observational field notes. Themes were focused on anxiety, embarrassment, anger, reassurance and pride when receiving feedback. Tutors did not mention whether they adapted their techniques when students begin to exhibit non-verbal cues of discomfort, due to them being unsure how to. The balance between giving constructive feedback and building confidence was mentioned by tutors to be challenging. Modulation in voice and body language of the tutor affected students view of their own performance.

**Discussion and Conclusions:** Students react differently when receiving feedback and it may be beneficial for tutors to be trained to adapt to students showing a range of emotional responses. Often how the feedback is given and not necessarily the feedback content itself including but not limited to the body language, tone of voice, and environment can have a big influence on the effect of the feedback.

**Take-home Messages:** It is important that tutors are able to understand the emotional impact of receiving feedback. I have made suggestions as to why and how information about non verbal cues should be given to tutors as part of their tutor training.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH14 (69)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### The role of video-assisted feedback sessions in resident teaching: A pre-post intervention

#### AUTHOR(S):

- Jaclyn Vertes, Dalhousie University, Canada (Presenter)
- Allen Tran, Division of General Internal Medicine, Department of Medicine, Canada
- Tasha Kulai, Division of Digestive Care & Endoscopy, Department of Medicine, Canada
- Lori Connors, Division of General Internal Medicine, Department of Medicine, Canada

#### ABSTRACT

**Background:** Despite providing a large component of teaching to trainees, internal medicine residents receive little feedback on their teaching ability.

**Summary of Work:** This was a single center study of senior internal medicine residents in Halifax, Nova Scotia, Canada. Participants had a classroom-based teaching session video recorded. The recording was then watched by the participant and by two feedback facilitators, who then all met for face-to-face feedback. Participants completed a self-reflective exercise after this intervention. Audience members of the recorded session and a post-feedback teaching session completed an evaluation form. Scores from the evaluation forms from each phase were analyzed with the Wilcoxon Signed-Rank Test. Inductive coding was performed for qualitative data from the feedback sessions and reflective exercises.

**Summary of Results:** A total of 19 residents participated. There was no statistical difference in the evaluation form scores between the pre-intervention and post-intervention teaching sessions. Mean scores varied from 4.6 to 5.0 out of 5.0 on combined pre- and post-intervention evaluations. The majority (88.9%) of participants found viewing their recorded session useful, and 94.4% stated the intervention was worth continuing. Common themes of feedback and self-evaluation included “time-management,” “organization,” “communication,” and “environment.”

**Discussion and Conclusions:** There was no difference in the evaluation form scores after the intervention, but baseline scores were high. The majority of residents found the intervention and viewing a video recording of their teaching useful for development.

**Take-home Messages:** The addition of video recording teaching sessions, followed by formal feedback, could improve resident teaching ability.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH15 (994)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Design and implementation of interactive multi-source feedback system applied to postgraduate year residents of nursing

#### AUTHOR(S):

- Ching Mei Lee, Department of Clinical Education and Training, Kaohsiung Medical University Hospital, Taiwan (Presenter)
- Chia Wen Tsai, Department of Clinical Education and Training, Kaohsiung Medical University Hospital, Taiwan
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- Tzu Ying Tang, Department of Clinical Education and Training, Kaohsiung Medical University Hospital, Taiwan
- Chi Chen Wu, Department of Information Technology, Kaohsiung Medical University Hospital, Taiwan
- Hsiu Yuen Wu, Department of Nursing, Kaohsiung Medical University and Hospital, Taiwan

#### ABSTRACT

**Background:** The digital learning of integrating information technology and innovative learning style has become the mainstream development value of academic research and education learning industry. This study focus on exploring the actual teaching situation of postgraduate year residents of nursing (PGYs) in the clinical field, and design and implement a number of practical mechanisms through the interactive multi-source feedback system.

**Summary of Work:** The system constructs an interactive multi-source feedback system base on the WEB platform, and the user can use the system through a personal computer or various mobile devices. The system functions include the development of PGY student personalized training course modules, student and teacher management, diversified assessment form modules, instant feedback mechanism, learning process query and personal to-do items.

**Summary of Results:** (1) adding the concept of learning objectives and Gantt charts to the system, providing complete and diverse teaching methods and assessments for learning results, generating more immediate help and suggestions for the students, and improving the effectiveness of the learning. (2) The instant feedback system has an impact on teachers and trainees. Teachers can also master the learning outcomes of the trainees through this system and adjust the teaching strategies in real time. Through the interactive feedback from trainees and teachers on line, the clinical expertise of teachers can also grow.

**Discussion and Conclusions:** It can reach the training stage clearly by using information technology to assist the PGYs training program, and the teacher trainees are easy to control through making individual Gantt chart of training schedule. The system also meets the different needs of individual students through multiple assessments, and the system provides immediate learning outcomes feedback of the trainees, and the reviewing and counseling are available in a timely manner. Furthermore, the application of mobile technology provides instant teaching interaction and enhances effectiveness of teaching and learning.

**Take-home Messages:** The study also applied the other medical staff in the hospital, and also showed the practicality and importance of the system. In the future, I hope that it will continue to enhance the effectiveness of clinical technical teaching ability through this kind of information technology.



## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH16 (343)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Students Assessing and Teaching Students: A student-run formative OSCE: Process and Further Research

#### AUTHOR(S):

- Marie Thoresen, Norwegian University of Science and Technology, Norway (Presenter)
- Tobias Schmidt Slørdahl, Norwegian University of Science and Technology (NTNU), Norway
- Susan Elizabeth Farrell, Harvard Medical School, USA

#### ABSTRACT

**Background:** Formative assessments should be opportunities to provide students feedback information on performance to enhance learning. Medical students, nationally and internationally, request more feedback and more opportunities for low-stakes assessment. Peer-to-peer teaching has been shown to enhance formative learning experiences. We piloted a student-run formative objective structured clinical examination (OSCE), at the Norwegian University of Science and Technology, in which medical students authored cases, observed peers and provided feedback.

**Summary of Work:** Eleven fourth-year medical students participated; they received two two-hour interactive teaching seminars about OSCE case-writing and feedback principles. Seven academic faculty educators from Dermatology, Rheumatology, Orthopedics, Psychiatry, Pediatrics and Gynecology mentored students in case design and assessment rubric creation.

**Summary of Results:** Medical students created 15 OSCE-cases in 4 weeks. Cases ranged from history taking to practical procedure assessments. Overall, the cases were judged by an OSCE faculty administrator with 4 years of experience, to be high-quality, creative and nearly exam-ready. Students used the cases to create a formative OSCE circuit, in which they took turns as a student or an observer. Peer-scoring was performed using student-created structured score sheets and a global score. Students gave each other case-specific structured feedback based on the objectives of the student case-author and student "examinee". After the formative OSCE the students revised their self-authored OSCE cases and filed them in the case bank for use on future summative OSCEs.

**Discussion and Conclusions:** As learners and examinees, medical students bring significant practical experience to exam case creation. They are also at the academic level that is being assessed and might have an easier time providing peer-coaching and feedback to peers on an OSCE case. Qualitative data, through individual interviews with students and faculty educators, are being collected to explore the impact on learning of this pilot student-created OSCE. It is in the future important that this stays a purely student-run initiative and procedures have to be made for student-led OSCE case writing and feedback seminars.

**Take-home Messages:** Medical students are an underutilized source of exam-related knowledge, and they want to participate more in their own learning - just give them the chance!

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH17 (3053)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' experience of 'Firecracker' as a formative assessment tool in the Cardiovascular Course of MBBS programme in the University of the West Indies

#### AUTHOR(S):

- Anwarul Azim Majumder, Faculty of Medical Sciences, The University of the West Indies, Cave Hill Campus, Barbados (Presenter)
- Subir Gupta, Faculty of Medical Sciences, The University of the West Indies, Cave Hill Campus, Barbados
- Oswald Peter Adams, Faculty of Medical Sciences, The University of the West Indies, Cave Hill Campus, Barbados
- Bidyadhar Sa, Faculty of Medical Sciences, The University of the West Indies, St. Augustine, Trinidad & Tobago
- Keerti Singh, Faculty of Medical Sciences, The University of the West Indies, Cave Hill Campus, Barbados

#### ABSTRACT

**Background:** Students should be assessed frequently and consistently throughout their medical training to track progress and determine whether they achieve required competencies. Formative assessments can enhance cognitive and motivational support for learning and achievement. Firecracker, an online educational software (<https://med.firecracker.me/>), provides an objective and accurate assessment of student performance and determines progress relative to peers. It was introduced in 2017 at the Cave Hill Campus of the University of the West Indies for the Year-2 cardiovascular system course in the MBBS degree. The objectives of this study were to determine: (i) satisfaction of students with Firecracker and (ii) their use of Firecracker.

**Summary of Work:** Questions and quizzes were uploaded weekly for 9 weeks by the Firecracker Administration. They were of a mixed type: analytical, problem solving, and knowledge-based and covered major areas of the cardiovascular system. The access, usage and grades from the Firecracker website were analysed. A paper-based questionnaire was used to seek the views of students (n=93) enrolled in the cardiovascular course.

**Summary of Results:** Of 91 students enrolled in Firecracker, 60 students completed the questionnaire (response rate 67%). During the 9-week period, 77% of all Firecracker quizzes were completed. The mean score achieved on the quizzes was 57% (range 0 to 100%). Three students were identified as being 'at risk' with an average quiz performance of <35%. Students who used Firecracker consistently achieved better cardiovascular system course grades compared to those using it occasionally or never. Most students reported being happy using Firecracker (70%), they found Firecracker helpful in complementing coursework (78.3%), and preparing for exams (58.4%). Most students (68.3%) found that the weekly Firecracker quizzes were well aligned with the course lectures.

**Discussion and Conclusions:** Firecracker was welcomed by the students, perceived to be helpful and use of this software was associated with better academic performance. Firecracker is likely to be useful in other courses for continuous monitoring of the progress of the students.

**Take-home Messages:** Firecracker identified students at risk of failing course examinations. Students were satisfied with its use as a formative assessment tool and it was found to be associated with better examination performance.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH18 (2925)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Feedback and Feedforward

#### AUTHOR(S):

- Linda Waggoner-Fountain, University of Virginia School of Medicine, USA (Presenter)
- Meg Keeley, University of Virginia School of Medicine, USA
- Maryellen Gusic, University of Virginia School of Medicine, USA

#### ABSTRACT

**Background:** The University of Virginia School of Medicine's Entrustable Professional Activities program promotes learning through provision of real-time feedback and integration of student support systems in order to foster learners' continued development. Master Assessors (MAs), faculty selected to engage in assessment across disciplines and clinical environments, identify learners who need assistance from either their faculty Coach and/or their Advisory Dean.

**Summary of Work:** MAs are uniquely qualified to identify learners in need of focused attention to address issues related to their clinical performance. MAs communicate directly with a student's Coach if a student is not meeting clinical performance expectations. Coaches partner with students to analyze and interpret all performance data to create an individualized learning plan. MAs contact a student's Dean if they believe that other academic or non-academic issues may be impacting a student's performance. Coaches work closely with the Deans to form a team of student support. The MAs also comprise the Entrustment Committee and are charged with summative decision-making about learners' readiness for graduated autonomy at key transition points in the curriculum. Decision-making discussions are summarized with feedback to the student and their Coach to further inform learning plan development.

**Summary of Results:** Since February 2018, 5 MAs completed 1481 assessments in 8 core clinical clerkships. 38% assessed students' abilities to gather a history and perform a physical exam; 22% assessed oral presentation skills and 20% assessed documenting an encounter in a clinical record. 304 learning plans have been completed by student-Coach pairs since July 2018.

**Discussion and Conclusions:** MAs engage learners in a reflective dialogue in the context of assessment and are empowered to communicate with Coaches and Deans. MAs provide both real-time and summative feedback to learners. Coaches guide students in creating a plan for clinical performance development and Advisory Deans address broader academic and non-academic issues.

**Take-home Messages:** Faculty with expertise in assessment can be integrated into multifaceted student support frameworks. By identifying students needing assistance, they ensure that this information can be used to help the learner get to the next stage of competence.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH19 (2597)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A feedback initiative, changing the culture of learning

#### AUTHOR(S):

- Kristian Krogh, Aarhus University Hospital, Denmark (Presenter)
- Anders Stochholm Nielsen, Herning Regional Hospital, Denmark
- Rikke Mossin, Randers Regional Hospital, Denmark
- Carsten Søndergaard Poulsen, Viborg Regional Hospital, Denmark
- Mads Skipper, Central Denmark Region, Denmark

#### ABSTRACT

**Background:** Workplace based learning is commonly used in medical education. But there is not a conceptual model or framework to guide organisations expanding the workplace based learning from postgraduate medical education to intercollegial postgraduate health education. One way to promote intercollegial learning, is promoting feedback in the daily work - focusing the organisation on continuous workplace-based learning. The scope of this study is thus to help organisations within hospitals and departments, to better interweave the focus on patient care with an educational focus by exploring enablers and barriers to intercollegial verbal feedback, and exploring ways to promote enablers and diminish barriers through an action research approach.

**Summary of Work:** Informed by Engeström's activity theory in the process of expansive learning, our aim was to foster an expansive learning environment in the department and exploring the complexity of the phenomena of feedback practice and culture, while breaking down barriers and supporting enablers. At the department of anaesthesiology at Randers Regional Hospital. We establish a voluntary frontrunner group of 12-15 people. As accustomed in action research process, this group helped designing and planning, and thereby tailor the process meeting the particular needs of the department. At baseline and at 18-month follow-up, an inductive thematic analysis of semi-structured interviews with the frontrunner group, and a control group, randomly selected among the staff.

**Summary of Results:** For both groups there were a shift in their approach to feedback. Often the barriers that were dominant at baseline were reduced or diminished. Some of the primary results from the analysis include enablers, such as: Having a forum for the frontrunners to meet, share ideas, and support each other. Ask for feedback to establish a norm and an expectation of giving and receiving feedback. Practise in peace by giving feedback on harmless topics. When giving feedback, do it with curiosity and interest.

**Discussion and Conclusions:** Overall, the feedback culture in which verbal feedback is actively embedded in intercollegial cooperative relation seems to have changed to be more constructive as barriers are being diminished.

**Take-home Messages:** Don't be afraid to ask for feedback, it will change the culture of learning.

## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH20 (1971)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### “Is it me or is it the student?”: Clinical supervisors’ experience of giving feedback to physiotherapy students in clinical integrated learning

#### AUTHOR(S):

- **Malin Sellberg, Karolinska Institute, Sweden (Presenter)**
- Kirsti Skavberg Roaldsen, Karolinska Institute, Sweden
- Malin Nygren Bonnier, Karolinska Institute, Sweden
- Riitta Möller, Karolinska Institute, Sweden
- Alexandra Halvarsson, Karolinska Institute, Sweden

#### ABSTRACT

**Background:** Within health care education, clinical integrated learning has an important role in developing students abilities in clinical reasoning and combining theory and practice. Feedback is a cornerstone in effective clinical teaching and widely embedded in training professional activities. It facilitates learning for the student who will be aware of their strengths and areas of improvement. However, receiving and giving feedback is quite challenging task both for the students and their supervisors. The aim of this study was to explore clinical supervisors’ experience of giving feedback to physiotherapy students during clinical integrated learning.

**Summary of Work:** Informants, who were clinical supervisors for physiotherapy students were recruited in 2016 from the Department of Physiotherapy, Karolinska University Hospital, Sweden. Of all thirteen eligible clinical supervisors, one declined and 12 accepted participation. Data were collected with two focus group interviews. The informants’ experiences of giving feedback to students constituted the unit of analysis. The transcripts were systematically analysed by inductive qualitative content analysis. A purposeful and maximum variation sampling strategy was used to obtain breadth in data.

**Summary of Results:** Based on our preliminary results three categories emerged: constructive dialogue, Professional honour and action plan. Constructive dialogue is composed of the subcategories Promotes, Aggravates and Responses to feedback and incorporates the supervisors’ expectations to creating a constructive dialog with the student. Professional honour comprised subcategories Supervisors credibility, Emotional impact and Professional approach and describes how keen the supervisors were to have a professional attitude when giving feedback. Action plan comprising the subcategories Educational tools, Competence development and Support, describes how strategies were used to get support in giving feedback.

**Discussion and Conclusions:** Clinical supervisors manage different feedback situations by using educational tools and by reflecting together with a colleague. In difficult situations, clinical supervisors seek guidance and support from an experience colleague or the clinical teachers.

**Take-home Messages:** A professional attitude, educational tools and collegial support eases difficult feedback situations for clinical supervisor.



## #3HH Posters - Postgraduate Assessment/Feedback

### 3HH21 (2621)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### How do medical students value a multi-source feedback in developing their clinical skills?

#### AUTHOR(S):

- Ayad Al-Moslih, Qatar University, Qatar (Presenter)
- Suvarna Prakash, Qatar University, Qatar
- Maha Desouki, Qatar University, Qatar
- Farhat Fatima, Qatar University, Qatar
- Alison Carr, Qatar University, Qatar
- Sheeba Sarafudheen, Qatar University, Qatar

#### ABSTRACT

**Background:** Feedback is a key element of formative assessment. Students and educators agree on the positive value of feedback after an observed clinical performance. Receptivity of feedback is influenced by the assessment culture. Promoting students' agency and active involvement in the process has been emphasized in the literature.

**Summary of Work:** 46 pre-clerkship medical students had multiple formative objective structured clinical examinations (OSCE) over two academic years. Some OSCEs targeted students individually and others involved groups of four students: with each rotating through being assessed and providing peer feedback. Five minutes per station was allowed for feedback following a ten-minutes performance time. After every formative OSCE, feedback was sought via a seven-item questionnaire, with opportunity for free comments.

**Summary of Results:** Total responses were from 39/46 students in the first formative OSCE, 13/46 in the second, and 14/46 in the third. All students preferred a formative OSCE over a didactic clinical skills revision session. The vast majority (97%) agreed that the feedback they received was useful. However, they requested longer time for feedback. 100% indicated that they benefited from listening to peer feedback. 87% preferred having the formative OSCE in small groups. 13% prefer to be assessed individually and receive feedback only from their examiner.

**Discussion and Conclusions:** Formative OSCE in small groups enabled students to be actively involved in reinforcing good practices and sharing misconceptions in clinical skills. The dominating students' preference for small group OSCEs encouraged the planners to organise further similar formats. The feedback time is planned to be increased. Students' preference to listening to colleagues feedback makes group OSCEs more advantageous. Planners believe more clinical skills can be formatively assessed through group OSCE with increased number of station for better exposure, less number of examiners and a similar or shorter overall time.

**Take-home Messages:** Group formative OSCE is liked by the majority of students. The added benefit of self, peer and examiner feedback facilitates bridging gaps in clinical skills performance. It also is more time-efficient and human resource- sparing from organizers perspective.

## #3II Posters - Curriculum Subjects 1

### 3II01 (1549)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Cadaveric anatomy teaching: An essential tool for reinforcing anatomical knowledge

#### AUTHOR(S):

- Sara Sana, Bart's and The London School of Medicine and Dentistry, UK (Presenter)
- Timothy Lloyd, Barts and The London School of Medicine and Dentistry, UK
- Chris Pieri, Barts and The London School of Medicine and Dentistry, UK

#### ABSTRACT

**Background:** The position of cadaveric teaching within modern medical curricula has been under increasing scrutiny in recent years especially following the release of the GMC guidance, 'Tomorrow's Doctors' in 2009. The response of various medical schools following this was to lessen the time devoted to basic sciences, including anatomy. These changes have been linked to a reduction in trainee confidence and knowledge in key anatomical themes, with recent studies indicating that more than half of newly qualified doctors feel their anatomical understanding to be deficient.

**Summary of Work:** An anatomical teaching course was devised by dedicated anatomy staff from a UK medical school for recently qualified junior doctors using a traditional blend of cadaveric prosections. Eleven doctors were allocated into small groups, and rotated through themed stations; intended to encompass core anatomical knowledge. Each group received fifteen minutes of interactive teaching per station and progressed through a total of ten stations. Questionnaires pertaining to students' confidence in their anatomical understanding were distributed at the beginning and end of the course. The students' also undertook an anatomy 'spotter' examination before and after teaching delivery, to formally assess for improvement in their knowledge.

**Summary of Results:** The results suggested that both the students' confidence and their exam performance significantly improved after teaching delivery. Pre- and post-course spotter results revealed a 13.3% ( $p < 0.0005$ ) increase in performance, whilst, internal student confidence and confidence in relation to colleagues at the same grade were increased by 63.1% ( $p < 0.002$ ) and 68.2% ( $p < 0.0002$ ) respectively.

**Discussion and Conclusions:** The results reported here underline the essential role that traditional cadaveric-based teaching holds in anatomical education. There was a statistically significant improvement in both anatomical understanding and confidence following one day of interactive cadaveric teaching. This data indicates that a move towards utilising cadaveric-based anatomical postgraduate teaching would bolster the confidence of newly qualified doctors in this crucial field.

**Take-home Messages:** Interactive, applied, cadaveric-based anatomy teaching can significantly increase newly qualified doctors' confidence and understanding in core anatomical concepts.

## #3II Posters - Curriculum Subjects 1

### 3II02 (2987)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A Comparison on Attitude to Cadaveric Dissection between Thai and Ethiopian Medical Students

#### AUTHOR(S):

- **Natthiya Sakulsak, Faculty of Medical Science, Naresuan University, Thailand (Presenter)**
- Rachanee Chanasong, Faculty of Medical Science, Naresuan University, Thailand
- Abay Mulu, Department of Human Anatomy, College of Medicine and Health Sciences, Addis Ababa University, Ethiopia

#### ABSTRACT

**Background:** Cadaver-based instruction has been used as the main instructional tool in anatomical education. Naresuan University, Thailand and Addis Ababa University, Ethiopia encourage medical students to perform human dissection. This study investigates how the medical students' attitudes toward dissection vary with nationality and religion.

**Summary of Work:** The attitudes of 168 second-year medical students in Naresuan University, Thailand and 147 students in Addis Ababa University, Ethiopia toward cadaveric dissection were assessed by the same questionnaire. The questionnaires were distributed in 1 week before the initial dissection and after practicing dissection for 8 weeks. The data was analyzed by t-test at  $P < 0.05$ .

**Summary of Results:** 61.9% of Thai students were female and 94.65% Buddhist whereas 85.7% of Ethiopian students were male 87.8% Christians and no Buddhist. After 8 weeks exposure to dissection, most students of both universities displayed significantly increasing interest and excitement ( $P < 0.05$ ). Thai and Ethiopian students considered that the factors of dissection room stress were the chemical odour (38.1% and 59.2%, respectively) and irritation of their eyes (41.07% and 20.4%, respectively). Over than 90% of the both students considered that human cadaver dissection was important for anatomy learning.

**Discussion and Conclusions:** The students of both universities had a similar opinion that chemical odour and irritation of their eyes were factors of dissecting room stressful. However, they preferred to continue dissection method in anatomy learning. **Conclusions:** This present study reported that most of the Thai and Ethiopian medical students showed interest in human cadaveric dissection although the nationality and religion were different. The environment of the dissection room could induce the student stressful.

**Take-home Messages:** Thai and Ethiopian medical students found that dissection is useful but the dissecting room environment should be concerned.

## #3II Posters - Curriculum Subjects 1

3II03 (508)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Musculoskeletal anatomy of the upper limb: Evaluation and comparison of common teaching & learning modalities

#### AUTHOR(S):

- Vasileios Mitrousias, University of Thessaly, Department of Anatomy, Greece (Presenter)
- Sokratis Varitimidis, University of Thessaly, Department of Orthopaedic Surgery, Greece
- Dimitrios Arvanitis, University of Thessaly, Department of Anatomy, Greece
- Aristeidis Zibis, University of Thessaly, Department of Anatomy, Greece

#### ABSTRACT

**Background:** Anatomy teaching and learning has traditionally been based on dissection. However, alternative teaching modalities such as prosections or plastic models, and newer ones such as three-dimensional anatomy software, are more and more used during the educational process. The goal of the present study is a.to investigate students' perceptions on each learning modality and b.compare the efficacy of the above teaching modalities in knowledge acquisition.

**Summary of Work:** In total, 349 first-year, volunteer, medical students without previous knowledge of anatomy, were taught gross anatomy of the upper limb, using four different learning modalities: dissection, prosections, plastic models and a 3D human-anatomy software. Each group was taught with four hours of lectures and four hours of laboratory work. Students' knowledge was examined by 100 questions. Half of them were tag questions of cadaveric specimens and anatomy atlas' images. The other half were multiple-choice questions (McQ), level-1 or 2 in Blooms taxonomy. An evaluation questionnaire was also given to students. The duration of the study was 4 years.

**Summary of Results:** Student-based analysis revealed that students of the dissection and the 3D group performed statistically significantly better in total questions and in McQ, compared to those of the prosection and the plastic-models group ( $p < 0.001$ ). In tag questions, students of the 3D group performed significantly better, compared to the other three groups ( $p < 0.001$ ). Regarding students' perceptions, dissection received higher ratings in questions assessing students' satisfaction, expectations but also fear/stress before the laboratory ( $p < 0.001$ ). There was no difference between the four modalities regarding educational value ( $p = 0.12$ ), but dissection and 3D software were considered more useful in preparing for clinical activities ( $p < 0.001$ ).

**Discussion and Conclusions:** Dissection of fresh-frozen cadavers remains first in students' preferences and achieves higher knowledge acquisition. Contemporary, 3D anatomy software is considered equally important when preparing for clinical activities and mainly favor spatial knowledge acquisition. Prosections could be a valuable alternative when dissection is unavailable due to limited time or shortage of cadavers. Plastic models are less effective in knowledge acquisition but could be valuable when preparing for cadaveric laboratories

**Take-home Messages:** In conclusion, technological advances provide new, useful learning modalities, which could be successfully combined with dissection in a modern medical curriculum.

## #311 Posters - Curriculum Subjects 1

31104 (236)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Radiology - an underutilised tool in undergraduate medical education

#### AUTHOR(S):

- David Matthews, NHS Scotland, UK (Presenter)
- Cindy Chew, NHS Scotland, UK

#### ABSTRACT

**Background:** Clinical imaging is exponentially growing in prevalence and importance in modern patient management. Junior doctors need to be proficient in understanding fundamental imaging principles, choosing appropriate investigations and basic image interpretation. Detailed undergraduate radiology curricula are available from the Royal College of Radiologists (UK) and the European Society of Radiology. These provide a structured approach for integrating radiology into existing teaching programmes. Despite this, there continues to be a chronic underutilisation of radiology in undergraduate medical education. Anatomy, a cornerstone in medical training, is one area to which radiology naturally lends itself. There is a growing body of evidence that integrating anatomy and radiology reinforces learning during traditional dissection sessions. If delivered by radiologists, there is also the opportunity to highlight key principles of imaging technique, radiation safety, clinical practice and image interpretation.

**Summary of Work:** Over three consecutive years, we have designed and implemented a new curriculum, integrating radiology into two semesters of anatomy teaching delivered to first year medical students in a leading Scottish medical school. We focus on small group teaching delivered alongside more classic dissection and prosection in the anatomy laboratory. Teaching is delivered by radiology specialty trainees, overseen by a radiology consultant with an interest in medical education. Student feedback is periodically gathered and used to modify aspects of this programme.

**Summary of Results:** We have successfully integrated radiology with the delivery of anatomy teaching to first year medical students at our medical school. Feedback has consistently been positive with clinical aspects of anatomy, as highlighted by radiology, frequently being lauded. Students report feeling more comfortable with imaging as well as it helping them to understand elementary anatomy.

**Discussion and Conclusions:** Integrating radiology and anatomy early in students' careers not only augments traditional anatomy pedagogy but also prepares them for clinical practice and the vast amount of imaging they will be exposed to over their working lifetimes.

**Take-home Messages:** Radiology and anatomy can be synergistic in student learning. Integrating radiology and anatomy early in medical education improves student learning and experience. Radiology can be successfully integrated into existing anatomy curricula with minimal disruption.



## #3II Posters - Curriculum Subjects 1

3II05 (442)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Challenges faced by Anatomy Honors students during weekly structured journal club activities

#### AUTHOR(S):

- Sanet Kotzé, Stellenbosch University, South Africa (Presenter)
- Elsje-Marie Geldenhuys, Stellenbosch University, South Africa

#### ABSTRACT

**Background:** Scientific writing is a skill that needs nurturing in a postgraduate program. To this end, anatomy honors students at Stellenbosch University participate in compulsory weekly journal club meetings. Students take turns in choosing and presenting a paper which is circulated to all students for critical evaluation prior to the meeting. All students are required to write an abstract of the weekly article, which is peer-marked. In addition, the facilitator marks, corrects and documents mistakes and misconceptions, which are discussed during the meeting. Previous research indicated that these students have a positive perception of the journal club activities particularly regarding their writing, presenting and scientific communication skills.

**Summary of Work:** The aim was to determine, from the point of view of the facilitator, what the common mistakes and misconceptions made by the students were, and if there were any noticeable improvements during the course of the year. **Materials and Methods** During 2015 (n=6) and 2016 (n=7), the same facilitator kept detailed notes on abstract writing, peer marking, presentation abilities and general performance of each student during the journal club meetings throughout the year. Notes were subjectively evaluated while particular attention was given to comparing notes early in the year with those taken later.

**Summary of Results:** Facilitator notes revealed the following: initial mistakes included confusing aims, objectives and epidemiological terms, general syntactic errors and longwinded writing. Initially, students often chose journal articles from low impact factor journals. After a few months, understanding the implications of journal impact factors, being able to recognize a well-written article and having the ability to evaluate an article without being over critical, improved. Writing became more concise and peer marking became more meaningful and less critical of small mistakes towards later months. Student presentation skills and their ability to successfully articulate their contributions during meetings, improved towards the end of the year.

**Discussion and Conclusions:** It was clear that students fared better with abstract writing in articles that were in their research field.

**Take-home Messages:** This qualitative study shows that the activities are beneficial to the development of students as future academics and will continue in the future.

## #3II Posters - Curriculum Subjects 1

### 3II06 (1441)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Illuminating the impact of a seven-day challenge drawing the celiac trunk on medical students' anatomical knowledge retention skills

#### AUTHOR(S):

- Piyachat Chansela, Phramongkutklao College of Medicine, Thailand (Presenter)
- Manop Chaimati, Phramongkutklao College of Medicine, Thailand
- Malee Chanpoo, Phramongkutklao College of Medicine, Thailand

#### ABSTRACT

**Background:** Knowledge of human topographical anatomy is the key foundations indispensable in performing clinical and intervention procedures and diagnoses. This core foundation needs to be retained; however, the nature of human anatomy makes it difficult for students to retain the myriad of information. Therefore, the new approach for anatomy teaching to help and improve their conceptual knowledge and make anatomy learning enjoyable is needed.

**Summary of Work:** This study demonstrated that students felt about this specific drawing was fun and so challenging and also made them paid attention to their work and reinforce them to read more books comprehensively.

**Summary of Results:** After the class finished, only 2.2% among them could memorize the structure of the celiac trunk and their associated branches. 31.5% of students could memorize the detailed contents approximately 50% and less than 50%. Interestingly, after the assignment, students expressed significantly gain knowledge retention. 10.9% of students felt confident that they could memorize all the structures. Nearly 62% of students could memorize more than 80% of the contents after challenge drawing. Furthermore, students' reflection showed that 91.3% of students were impressed this challenge and wanted it to be continued regularly. Of note, 7.6% of students thought that this challenge was benefit to improve their knowledge retention, but it occupied much of their time.

**Discussion and Conclusions:** In this study, we developed new challenging approach in teaching anatomy particular in the region of celiac trunk and evaluated the outcome of this strategy. Our study demonstrates that a seven-day challenge drawing the celiac trunk has a strong positive impact on not only improving knowledge retention skills in human topographical anatomy for medical students, but also making it more pleasurable to medical students.

**Take-home Messages:** A seven-day challenge drawing is a promising teaching approach in promoting knowledge retention skills.

## #3II Posters - Curriculum Subjects 1

3II07 (2721)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Specific Interactive Methods of Anatomy Teaching can Improve Physician Associate Student Feedback and Short-Term Learning Outcomes

**AUTHOR(S):**

- Marianne Carpenter, Swansea Medical School, UK (Presenter)

**ABSTRACT**

**Background:** Swansea University Medical School introduced a two-year Physician Associate (PA) program in 2016. We compared two different approaches to interactive anatomy teaching, assessing (1) short-term learning outcomes and (2) levels of student satisfaction.

**Summary of Work:** Each anatomy session consisted of an introductory lecture, followed by 4 interactive stations focusing on aspects of the lecture in more detail. Learning outcomes were assessed at the end of each session using multiple-choice questions (MCQ), and weekly written feedback from students was collected. Acting on feedback from the 2017 cohort, we revised our approach to the interactive stations in 2018, comparing MCQ scores and qualitative feedback for the two cohorts.

**Summary of Results:** Worksheet-based Interactive Stations (2017 cohort): Consisted of individual worksheets with “fill in the blanks” questions. Students were encouraged to collaborate to find answers, using the anatomical models and textbooks supplied. Collaboration and interaction was observed to be limited; worksheets contained some incorrect answers or were incomplete. Feedback themes included feeling rushed, too much information, not having enough time. The average score for the MCQ was 5.23 out of 10. Immersion-based Interactive Stations (2018 cohort): In order to improve group interaction, we discontinued the worksheets, introducing a handout at the start of each session. This left the students free to engage fully with tasks, without the need to write notes. Each station repeated information from the introductory lecture using a variety of novel visual and kinesthetic tasks, to reinforce key concepts. Priority was given to observing, handling, drawing, naming and discussing anatomy on models, cadavers, and colleagues. Tasks included: • Creating a labeled model of the dural venous sinuses, using coloured Playdoh®, cling-film, pipe-cleaners and a plastic skull model • Using planks, squats and other exercises while quizzing each other on muscles, to learn actions, innervation and attachments Feedback theme was almost exclusively about enjoyment of the class. The average score for the MCQ was 7.40 out of 10.

**Discussion and Conclusions:** Initial results of this small study indicate that immersion-based stations may be superior to worksheet-based stations for teaching PA anatomy.

**Take-home Messages:** Short-term learning outcomes and feedback for anatomy classes can be improved by tailoring interactive sessions.

## #3II Posters - Curriculum Subjects 1

3II08 (589)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A Study on the Effectiveness of Virtual Reality Models in Anatomy Education

#### AUTHOR(S):

- **Sristi Acharya, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore (Presenter)**
- Eric P H Yap, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
- Sreenivasulu Reddy Mogali, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

#### ABSTRACT

**Background:** Cadaveric specimens are frequently used in teaching and learning of human anatomy but are becoming harder to procure due to various constraints. In addition, each student only gets a limited hands-on time with the specimens owing to the decreased curriculum time for anatomy education. With limited time and resources, students might not be able to consolidate their knowledge effectively. Virtual reality (VR) is a possible low-cost alternative for anatomy education. VR can potentially bring education outside the classroom and revolutionise digital learning by reducing specimen and facility costs and allowing students to employ independent learning with access to relevant resources at all times. The aim of this study is to develop low-cost photorealistic three-dimensional (3D) VR models and explore its effectiveness as a learning tool.

**Summary of Work:** Plastinated specimens were scanned using stereoscopic photogrammetry to create photorealistic VR models. They were subsequently integrated with anatomy notes in a website. Year 1 and 2 medical students were recruited. Two sub-studies were conducted; the first simulating a practical where VR was compared against a live instructor, and the second simulating independent learning where VR was compared to plastinated specimens. Students' learning was measured using pre-trial and post-trial quizzes for each method of education. A survey on students' perceptions of the different learning methods was also conducted.

**Summary of Results:** The VR website is shown to be an excellent resource for independent learning. There is no statistically significant difference in student performance ( $p > 0.05$ ) when VR is compared to other teaching methods. Students perceived the VR website to be useful due to its easily accessible, intuitive and interactive models.

**Discussion and Conclusions:** This study shows that photorealistic 3D anatomical models integrated into a VR website are effective learning tools for practical or lesson preparation and revision. These models not only serve as a valuable adjunct to the cadaveric specimens but also complement traditional teaching methods.

**Take-home Messages:** These outcomes show great potential for the VR website in enhancing anatomy education. It also encourages further work into creating a database of photorealistic VR models and exploring its use in anatomy education and research.

## #3II Posters - Curriculum Subjects 1

3II09 (975)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Utilization of Virtual-Reality Technology for Learning Medical Anatomy

#### AUTHOR(S):

- Seu-Hwa Chen, Department of Anatomy and Cell Biology, School of Medicine, Taipei Medical University, Taiwan (Presenter)
- Kung-Pei Tang, Department of Education and Humanities in Medicine, School of Medicine, Taipei Medical University, Taiwan
- Tsan-Hon Liou, School of Medicine, College of Medicine, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** The virtual reality (VR) technology has received increasing attention in terms of medical education. Eight sets of virtual reality equipment are since 2018 available to the instructors and students at Taipei Medical University for teaching and learning medical anatomy in addition to cadavers. This study aims at investigating the correlation between students' utilization of VR technology in medical anatomy and their learning performances.

**Summary of Work:** 56 nursing school students who participated in medical anatomy course in 2018 were recruited for this study. The first half anatomy sessions were taught by cadavers. Students used VR program in addition to lectures in the other sessions. Data of their learning achievements prior to (midterm) and after using VR equipment (final), the usage count and flow state by using VR equipment were collected for investigating their Spearman's rank correlation coefficient. The 36-items LONG Flow State Scale (FSS-2-General) was employed to investigate students' perception. FSS-2-General comprises 9 domains: 1. Challenge-Skill Balance; 2. Merging of Action and Awareness; 3. Clear Goals; 4. Unambiguous Feedback; 5. Concentration on the Task at Hand; 6. Sense of Control; 7. Loss of Self-Consciousness; 8. Transformation of Time; 9. Autotelic Experience.

**Summary of Results:** According to Spearman's rank correlation coefficient, participants' learning performance after using VR equipment are significantly correlated to their midterm test scores ( $\rho=.445$ ,  $p=.001$ ), to the VR usage ( $\rho=.295$ ,  $p=.027$ ), and also to their flow state responses to "sense of control" ( $\rho=.289$ ,  $p=.031$ ).

**Discussion and Conclusions:** Although students who performed better in final examination had also more VR equipment usage, they had higher academic achievement in medical anatomy even without using VR equipment. Using the VR equipment was not required for the course participants. Students who perform better in final examination could be profiting from VR usage, but also could be highly motivated in learning anatomy. In addition, respondents' "Sense of control" in VR is the only factor that significant correlated to their final exam scores.

**Take-home Messages:** Regarding the high cost of VR equipment, further study on this technology enhanced learning outcomes would be much needed.



## #3II Posters - Curriculum Subjects 1

### 3II10 (1676)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Use of Technology Enhanced Teaching and Learning of Human Anatomy to Medical and Allied Health Students

#### AUTHOR(S):

- Gopalakrishnakone Pon, Singapore Institute of Technology, Singapore (Presenter)

#### ABSTRACT

**Background:** Teaching anatomy is very complicated spatial expression and description of organs and systems of human body needs more than words. It needs 3D visualization, segmentation, surface rendering, spatial labeling as well as virtual dissection and 3D rotation and simulation. Various technologies have been adapted and adopted by our group to achieve these goals.

**Summary of Work:** Virtual reality, Augmented reality, Mixed reality and 360 immersive videos were some of the technologies we used to teach cardio vascular system, respiratory system, Male and female reproductive systems. In addition a Virtual Human Anatomy museum has been created using 360 immersive video technology based on a real anatomy museum as well as QR Coding of each specimens along the lines of famous Natural history museums. This virtual anatomy museum will be used by the students to review the specimens at home or in remote location in a virtual world. This virtual museum has been tested among students.

**Summary of Results:** VR Experience made the students very excited and encouraged them to self learn and self motivated and were able to take the learning environment and the teacher to their home.

**Discussion and Conclusions:** Immersive technologies have a very important place in teaching and learning of subjects like human anatomy at various levels ranging from medical students to surgeons as well as to allied health students. We have to very clearly thing and plan what areas need VR, AR and MR and focus on those areas and make a short and sharp experience rather than a boring and exhaustive experience which will make to user sick of using the VR Gear for a long time.

**Take-home Messages:** Immersive technologies have a definitive place in teaching and learning of human anatomy for medical and allied health students but it has to be carefully planned using deep thinking. Side effects of immersive technologies also should be considered as well as the expenses in creating these experiences.

## #3II Posters - Curriculum Subjects 1

3II11 (1576)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of Research skills as part of MD Program At Akaki Tsereteli State University

#### AUTHOR(S):

- Irine Pkhakadze, Akaki Tsereteli State University, Georgia (Presenter)
- Nato Alavidze, Akaki Tsereteli State University, Georgia
- Nana Shavlakadze, Akaki Tsereteli State University, Georgia
- Tamara Valishvili, Akaki Tsereteli State University, Georgia

#### ABSTRACT

**Background:** Higher medical education shall be based on international standards. Revised Benchmarks of Medicine require gaining of research skills, The external institutional evaluation process at Akaki Tsereteli State University (site visit of authorization) revealed the obligation to drive the research focused curricula agenda; According to experts' recommendations awareness on the modern research methods shall increase as well as their practical implementation.

**Summary of Work:** Taking into consideration the above mentioned, to the existing components of the educational program (Biostatistics 2kr, Epidemiology -4kr, Professional aspects -5kr (behavior of a doctor as a researcher and as a professional; Evidence Based medicine and research process) aimed at the development of the research skills, we added Course Work-5kr (the 11th semester) which covers doing research in the specific direction in accordance with the student's interests and preferences. A Course work ensures conduct of individual researches based on the systematization of the acquired theoretical knowledge and practical trainings. Students choose the desired clinical direction: surgery, therapy, neurology - psychiatry, pediatrics, obstetric - gynecology etc. Topic of the research is specified by the direct participation of the head of appropriate direction and is approved at a meeting of the relevant department.

**Summary of Results:** As a result of the concrete research conducted, students have the possibility to present each of their works at the national and international scientific conferences and forums. Conference proceedings are published by the faculty.

**Discussion and Conclusions:** In order to develop students' research skills, it is especially valuable to teach students in PBL format: each PBL week is the best way to define the research tasks (required by the case), to search the literature, for discussions within a group and forum, decision-making and their argumentation. These are the best ways to develop general individual research skills.

**Take-home Messages:** Biostatistics, Epidemiology, Professional aspects, Course Work (total 16 credits) promote the possibility to reach the very important goal of the educational program of a certified doctor – "Doctor as a professional".

## #3II Posters - Curriculum Subjects 1

### 3II12 (310)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' self-reflection on their real experiences during early exposure to conducting clinical research in their first-year clinical clerkship

#### AUTHOR(S):

- Wachiraporn Arunothong, Lampang Regional Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Clinical research skills are crucial for medical students. Students still lack these skills after graduation. Reasons may be that the students curricula contain only clinical clerkships, and research methodology, while research experience for students is optional as an elective or a summer opportunity. Lampang Medical Education Center has initiated a mandatory 4-weeks rotation for first-year medical clerkship students to provide an opportunity for them to conduct research, themselves.

**Summary of Work:** Students were divided into groups of 3-4, according to their interest. Each rotation had 3 groups. Mentors from medical specialties including internal medicine, surgery, pediatrics, Ob&Gyn etc. initiated research topics. Students chose a topic and worked with their mentors on the following: 1)research question development, 2)literature review, 3)methodology, 4)proposal, 5)IRB submission, 6)data collection, 7)data analysis, 8) summary writing, 9)presentation preparation, and 10)final report. Students had 1 month before the new semester started to complete steps 1-5. Steps 6-10 were done during the rotation. Students' performances and knowledge were evaluated. Students reflected about what they learned and their attitude in the online evaluation.

**Summary of Results:** All of the students' performances were satisfactory. Students passed the knowledge test. Out of 41 students, 40 completed the reflections and attitude questions. A positive attitude was expressed by 95% of the students. They felt confident, challenged, and proud. They had a chance to use a search engine to do a systematic search, use statistical software, and learn the research process. On their first research presentation, 75% of them felt nervous but they gained more confidence in the process. About 83% thought research skills would be useful for their future study, 10% felt exhausted and 4% of them did not enjoy it.

**Discussion and Conclusions:** Through careful topic selection, students completed the research in a block. Students said they experienced benefits, had a good attitude, and enjoyed it. The topics being initiated by mentors, the proper duration, and the early inclusion of this rotation in the first-year clinical clerkship curriculum were debated among the students.

**Take-home Messages:** Its time to include a mandatory research rotation in a clinical clerkship curriculum.

## #3II Posters - Curriculum Subjects 1

3II13 (2889)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### “Health System Research” teaching in 5th year medical students by multidisciplinary staff in Medical Teaching Center, Sanpasitthiprasong Hospital, Thailand: 10-year experience

#### AUTHOR(S):

- Siritip Sanguanwongwan, Sanpasitthiprasong Hospital, Thailand (Presenter)
- Wisit Sanguanwongwan, Sanpasitthiprasong Hospital, Thailand
- Prapaporn Suwaratchai, Sanpasitthiprasong Hospital, Thailand
- Parinya Chamnan, Sanpasitthiprasong Hospital, Thailand
- Supot Saithong, Sanpasitthiprasong Hospital, Thailand

#### ABSTRACT

**Background:** Health system research is part of core medical curriculum, which has been taught in 5th year students at Sanpasitthiprasong Regional Hospital since 2007. The objective of this study was to describe 10-year experience in teaching health system research using a multidisciplinary team approach at this teaching hospital.

**Summary of Work:** Since 2007, ‘health system research’ teaching in the 5th year of medical curriculum has been run by a multidisciplinary team of instructors comprised of 3 medical doctors, 1 dentist, 2 nurses, 1 pharmacist, 1 lab technician, 1 radiology officer and 1 medical statistician. Most of these instructors had a certificate of “The International Short Course In Epidemiology and Biostatistics” from KhonKaen University, Thailand. Over a 4-week period, the 5th year medical students learned about health system research through a series of lectures on research methodology, group discussion and statistical analysis workshop. Simultaneously, the students were divided into groups of 4-7 persons, with each group required to complete and submit a research project at the end of the rotation. The students worked on their research projects under supervision of multiple supervisors. They could freely seek advice from any advisors regardless of the subjects/topics they taught. The students were allowed to make decision in each and every step of their research by themselves. Multiple evaluation methods were used including proposal presentation, poster and oral presentation of their research, multiple choice questions, practical tests on data management and statistical analyses, oral examination and manuscript writing.

**Summary of Results:** Over 11 years, all of 397 students passed the summative examination. Most of the students (57.68%) received grade ‘A’. A total of 82 researches (44 cross-sectional survey, 36 Cross-sectional analytical and 2 case-control studies) were conducted. The size of group of students for best cooperative working was a group of 4 persons. Student feedback suggested high satisfaction: 94.5% for personality of teachers, 91.0% for teaching skill, 89.9% for evaluation process and 94.5% for classroom conditions.

**Discussion and Conclusions:** A multidisciplinary team of instructors played a crucial role in fostering research skills in medical students and may represent an effective alternative of ‘Health System Research’ teaching

**Take-home Messages:** Medical students could respect and learn from multidisciplinary.

## #3II Posters - Curriculum Subjects 1

3II14 (2430)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Research of medical students of Sunpasit Hospital Ubonratchathani, Thailand: A 5-year audit

#### AUTHOR(S):

- Prapaporn Suwaratchai, Sunpasitthiprasong Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Research training is essential in a medical student curriculum. Sunpasitthiprasong hospital Ubonratchathani, Thailand has medical student course since 2009. The Objective of this study was to examine the quality of medical student research in Ubonratchathani province Thailand by auditing the results of manuscripts.

**Summary of Work:** From 2013 to 2017, all manuscripts were evaluated. The study instrument was an evaluation forms that have 5 research skill areas. Manuscripts quality is rated on a numerical (1-5), criteria based scale. Variables such as study designs, subject, sampling method, research instruments, and statistics methods were collected. Descriptive statistics were used to describe data.

**Summary of Results:** In total, 42 manuscripts were included in a 5-year period. The most common areas were social science ,medical education, prevention and screening and health services research. Cross section study designs was 100 %. The subjects were used in medical student 26.13% and patients 23.81%. Probability sampling was used 21.43% . Almost of the research instruments formulated by researcher 95.24 % and the questionnaire were constructed 95.24%. Statistics methods were 100% Estimation, 80.95% and hypothesis testing and 47.62% . Most of the research were good quality 85.71%. Analysis of manuscripts in five main research skill areas were good - Average score were (1) research methods 3.96 (2) information gathering 3.72 (3) critical analysis and review 3.85 (4) conclusion and suggestion 3.85; (5) discussion. 3.85.

**Discussion and Conclusions:** Quality of medical student was good and the medical student have good five research skill areas.

**Take-home Messages:** Research is essential part for medical students. The quality of research could evaluated by manuscript audit.



## #3II Posters - Curriculum Subjects 1

3II15 (2381)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Factors facilitating the success of fourth-year medical students conducting clinical research according to a new curriculum: Lessons learned

#### AUTHOR(S):

- Rongtiva Muenpa, Lampang Medical Center, Lampang Hospital, Thailand (Presenter)
- Win Techakehakij, Lampang Medical Center, Lampang Hospital
- Ravin Sony, Lampang Medical Center, Lampang Hospital

#### ABSTRACT

**Background:** To enhance research skills for doctors, the Medical Faculty of Chiang Mai University (CMU) added a research skills topic to the new curriculum. Lampang Medical Education Center is affiliated with the Medical Faculty of CMU and so prepared a four-week rotation to teach research skills to the fourth-year class, starting in 2018. A question was raised of “what factors helped the fourth-year medical students to conduct clinical research within a four-week rotation?”

**Summary of Work:** A review and analysis of the research skills class was undertaken during November and December 2018. The manual and research reports were reviewed and the success of conducting each of the clinical research projects was evaluated. Data were analyzed using descriptive statistics.

**Summary of Results:** There were 47 fourth-year medical students conducting 12 clinical research projects during May to October 2018. The students were divided into four rotations. Each four-week rotation included 12 students with four students per project. Before starting the class, a four-day workshop was held on writing research proposals and to assign advisers for each project. The advisers came from 8 specialties including internal medicine, pediatrics, gynecology, family medicine, surgery, forensic medicine, emergency medicine and radiology. One of the projects was innovation, 9 were retrospective studies retrieving data from the electronic database and the remaining 2 were randomized control trials (RCT). Most of the time was spent collecting data (75%). At the end of each rotation, the retrospective and innovation projects were presented with completed results whereas the RCT projects were presented with incomplete samples.

**Discussion and Conclusions:** Most of the projects could be completed within four weeks if the students worked closely with their advisers and completed data collection within 2-3 weeks. The most appropriate study design was a retrospective study. An RCT could possibly be done if they had enough patients to study or had more study time.

**Take-home Messages:** Factors facilitating the success of fourth-year medical students conducting clinical research within four weeks were (1) well prepared study class, (2) close monitoring by project advisers, (3) retrospective study design and (4) availability of electronic patient database.

## #3II Posters - Curriculum Subjects 1

3II16 (996)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Implementation of Guideline Watch for knowledge translation in clinical students: a pilot study

#### AUTHOR(S):

- Chun-chao Chang, Taipei Medical University Hospital, Taiwan (Presenter)
- M.A i-No Kang, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** This study aimed to investigate the effects of interactive course with Guideline Watch for knowledge translation in clinical students.

**Summary of Work:** We (Taipei Medical University Hospital) designed an interactive course for knowledge translation using Interactive Response System in internal medicine training program. The contents were selected two topics about hypertension and sepsis management from the NEJM Guideline Watch 2017. According to the NEJM Guideline Watch, we designed scenarios with questions. Instructors asked questions and explained the evidences that were cited in the NEJM Guideline Watch. Then, the instructors also demonstrated how they appraise and apply the evidences and the guideline in local situation. After the course, students were asked for 10 multiple choice questions. There were 54 students took the course and completed the test. The other 42 volunteers (clinical students) received test also.

**Summary of Results:** The results showed that the students participating in interactive course with Guideline Watch for knowledge translation ( $M \pm SD = 7.11 \pm 2.26$ ) had higher score in overall test than those in traditional internal medicine training program ( $M \pm SD = 4.88 \pm 1.73$ ). The mean difference was 2.23 ( $t = 5.48$ ; 95% CI, 1.42 to 3.04;  $p < .001$ ). Moreover, the significant differences were observed in both topics of hypertension ( $MD = 1.08$ ;  $t = 4.08$ ; 95% CI, 0.55 to 1.61;  $p < .001$ ) and sepsis management ( $MD = 1.15$ ;  $t = 4.12$ ; 95% CI, 0.60 to 1.71;  $p < .001$ ). We did not observe any significant difference between male and female.

**Discussion and Conclusions:** The interactive course with Guideline Watch gave clinical students not only specific knowledge about hypertension and sepsis management, but also the process of knowledge translation. Clinical students not only memorized the knowledge that the course taught, but also understood how they evaluate and use evidences. Moreover, the effect of this course was not significantly affected by sex. However, our study cannot prove how the course affect the clinical performance after the knowledge translation. Thus, we suggest that further study should design performance evaluation for outcome assessment.

**Take-home Messages:** The interactive course with Guideline Watch is a promising strategy for teaching clinical students to learn knowledge translation.

## #3II Posters - Curriculum Subjects 1

3II17 (2481)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The teaching of evidence-based medicine (skills) for medical students in real life practice

#### AUTHOR(S):

- Johannes Blom, Karolinska Institutet, Sweden (Presenter)
- Riitta Möller, Karolinska Institutet, Sweden

#### ABSTRACT

**Background:** Evidence-based medicine (EBM) means integration of the best research evidence with clinical expertise and patient values. Teaching EBM is now a core content of the curricula at several medical schools, but the methods of teaching often differ between the schools and clinics.

**Summary of Work:** To create equivalent teaching and examination in EBM at all main teaching hospitals in Stockholm, Sweden, we arranged separate meetings with course leaders and a common workshop on EBM and created a common structure of what the core of EBM consist of.

**Summary of Results:** The workshops topics were: formulate a question that can be answered; literature search; critical appraisal of scientific information; and application of results to everyday clinical practice. After the workshops the teachers agreed on an EBM examination including a common template for EBM poster as a part of a final examination.

**Discussion and Conclusions:** Modern medical curricula must include the introduction in EBM and develop students' skills in critical appraisal. What should be included in EBM seems to differ between clinicians and, therefore, an agreement on the contents and examinations are recommended. A model of EBM examination will be presented. To transfer EBM into teaching practice is not simple and teachers should get support and facilitation in examination of the EBM skills.

**Take-home Messages:** Our teachers and students have to learn that some evidence is better than other evidence.

## #3II Posters - Curriculum Subjects 1

### 3II18 (3241)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical students' access to research and research education worldwide

#### AUTHOR(S):

- **Natasha Bouran, International Federation of Medical Students' Associations (Presenter)**
- Erwin Barboza-Molinas, International Federation of Medical Students' Associations
- Javier Asfura, International Federation of Medical Students' Associations
- Mindaugas Galvosas, International Federation of Medical Students' Associations
- Catarina Pais Rodrigues, International Federation of Medical Students' Associations
- Aikaterini Dima, International Federation of Medical Students' Associations

#### ABSTRACT

**Background:** Research is undeniably one of the key components of medical practice, enabling great advancements in global health and allowing doctors to provide better healthcare to their communities. Nonetheless, one of the major limitations that medical students face is the lack of exposure to undergraduate research, as well as access to research projects.

**Summary of Work:** The International Federation of Medical Students Associations (IFMSA), through its Research Exchange and Medical Education Standing Committees, developed a survey to understand the current situation worldwide regarding medical students' access to research and research education in the medical curriculum.

**Summary of Results:** We received 619 responses from 206 countries, having representation from the 5 regions in which IFMSA is divided: Africa, Americas, Asia-Pacific, Eastern-Mediterranean and Europe. Regarding the results, even though the large majority (97,4%) of the participants agreed that research education should be approached in a medical curriculum, only 19.7% considered research education to be sufficiently addressed. From the current curriculum structure, it was observed that 36% had specific mandatory courses in their university and 21.2% had participated in optional courses, workshops or conferences on research because of a lack of training from their university. Regarding the research opportunities, 18.3% did not receive any research opportunity from their university, and 39.3% had never been involved in any research project.

**Discussion and Conclusions:** Research education is a vital component of medical education and medical students seem to consider its inclusion as essential for their formation. However, not enough emphasis is being placed across the globe, with most medical students seeking opportunities to train themselves in research outside the formal curriculum.

**Take-home Messages:** There is a clear interest of medical students of having more research addressed in the medical curriculum, but more opportunities for training in the curriculum and for development of research should be promoted.

## #3JJ Poster - Management and Leadership

3JJ01 (1002)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Developing Objectives to Improve Leadership Competence for Graduate Students in Taiwan

#### AUTHOR(S):

- Miaofen Yen, National Cheng Kung University, Taiwan (Presenter)
- Li-Wei Hsieh, Tainan Hospital, Ministry of Health and Welfare, Taiwan

#### ABSTRACT

**Background:** Developing leadership competence is one of the major goals in graduate studies among health care professionals. Health professionals with leadership competence will influence the health care system and improve the wellbeing of clinical care.

**Summary of Work:** The core elements of leadership competence were articulated. The objectives of leadership competence for graduate students studying master programs in nursing were generated. The research design was a descriptive study with Delphi technique. The research team delineated a theoretical framework of leadership competence. A panel of experts both from academic and clinical settings was invited to review the objectives generated by the research team according to the key elements derived from the theoretical framework. Delphi technique was applied to examine the objectives. The criteria used for consensus were a threshold of 75% experts rating above 4 on a 5-point Likert's scale, and quartile deviation less than .6 for each item.

**Summary of Results:** The overall goal of leadership competence was leading teams to demonstrate advance clinical practices as well as promote quality of nursing care. Ten objectives were depicted to reflect the overall objective including self-directing, leading people, resource management and vision building. Delphi panelists, seven from clinical and seven from academia reviewed the overall goal and 10 objectives. After two rounds of evaluating the objectives, all item reached the criteria for consensus. The Delphi panelists also reviewed teaching strategies in accordance with each objective, including flipped teaching method, group presentation, role model learning, and class activity. The objectives of leadership competence will be threaded into course at a graduate nursing program curriculum.

**Discussion and Conclusions:** Leadership competence encompasses personal characteristics articulation, leading people, resources management and vision building. The overall objective for leadership competence for graduate students was to lead health care team in clinical practice, thus to improve clinical care. The consensus was reached among experts from academia and clinical settings.

**Take-home Messages:** Leadership education must be provided to enhance care quality in clinical. Objectives of leadership competence may derive from personal characteristics articulation, leading people, resources management and vision building. Teaching strategies to improve leadership competence may include flipped teaching method, group presentation, role model learning, and class activity.



## #3JJ Poster - Management and Leadership

### 3JJ02 (3182)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

## Learning leadership for practice - student and graduate perspectives on how to prepare

### AUTHOR(S):

- **Sophie Munday, Collaborative Partnerships Office, Imperial College London, UK (Presenter)**
- Senita Mountjoy, Collaborative Partnerships Office, Imperial College London, UK
- Elizabeth Muir, School of Public Health, Imperial College London, UK

### ABSTRACT

**Background:** Doctors are expected to demonstrate leadership and management skills throughout careers (GMC, 2012). Emphasis on leadership in the GMC Outcomes for Graduates (2018) and FMLM indicative undergraduate curriculum (2018) underscore the importance of developing leadership skills longitudinally preparing graduates for leadership in practice. In crowded curricula, recognition of leadership learning varies. There is a need for signposting making leadership learning opportunities explicit (Stringfellow et al, 2015, Quince et al, 2014). Leadership opportunities differ at undergraduate and postgraduate level (Spurgeon et al, 2010). Leadership self-assessment tools like the Medical Leadership Competency Framework tool (MLCF, 2012) may not be appropriate for medical students. We aim to explore leadership learning needs and preparedness for leadership in practice at different stages of training in undergraduates and recent graduates. We will consider the MLCF self assessment tool at different stages of study and whether it could play a role in making implicit leadership learning more explicit (Eraut, 2004).

**Summary of Work:** We will purposively sample three cohorts; second and fifth year medical undergraduates and foundation trainees. Participants will complete the MLCF self assessment tool. Data will be paired with focus group data exploring perceptions of leadership skills necessary for undergraduates, how their leadership skills have been developed and where their perceived development needs lie. We will explore views on the MLCF tool and how participants perceive it could be used. Appropriate ethical approvals have been sought.

**Summary of Results:** Results will be presented at conference.

**Discussion and Conclusions:** This work is particularly timely in light of recent GMC and FMLM publications. We hope that this will inform developments nationally and locally whilst our institution is in the midst of a curriculum review. Additionally, we intend that this may inform future work with one of our international partners, exploring generalisable and transferable learning tools for leadership.

**Take-home Messages:** Leadership learning opportunities are variable and often implicit across the medical education continuum. Tools developed for postgraduate leadership self assessment could be utilised or adapted for undergraduates. Implementation of such tools, could assist in student recognition of and reflection on leadership learning and could contribute to a leadership portfolio.

## #3JJ Poster - Management and Leadership

### 3JJ03 (1535)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

## How to Deliver Moral Aspect of Authentic Leadership to Health Science Student?

### AUTHOR(S):

- **Mariusz Jaworski, Division of Education and Research in Health Science, Medical University of Warsaw, Poland (Presenter)**
- Mariusz Panczyk, Division of Teaching and Outcomes of Education, Faculty of Health Sciences, Medical University of Warsaw, Poland
- Anna Lenczuk-Gruba, Department of Social Nursing, Faculty of Health Science, Medical University of Warsaw, Poland
- Karolina Jablowska-Gorecka, Department of Public Health, Faculty of Health Sciences, Medical University of Warsaw, Poland
- Aneta Binkowska, Department of Emergency Medical Services, Medical University of Warsaw, Poland
- Joanna Gotlib, Division of Teaching and Outcomes of Education, Faculty of Health Sciences, Medical University of Warsaw, Poland

### ABSTRACT

**Background:** In the literature, greater attention has been given to the medical and nursing professions than to other clinical authentic leadership (AL) roles in health care. There is potential research gaps. In the case of AL, moral and ethical aspect should be more accented, because it is the foundation of working with the patient. Probably, moral aspect of AL can be strengthened by personality traits, especially-perfectionism (P) and self-efficacy (SE).

**Summary of Work:** In 2018, cross-sectional study was conducted on a group of 1356 students of Faculty of Health Sciences (Medical University of Warsaw, Poland). Three standardized questionnaires were used: Authentic Leadership Self-Assessment Questionnaire (ALQ), Almost Perfect Scale-Revised (APS-R) and General Self-Efficacy Scale (GSE). The analysis of the influence of perfectionism and self-efficacy (predictors) on moral aspect of AL (dependent variable) was conducted with the use of multiple stepwise regression.

**Summary of Results:** The suggested regression model was statistically significant ( $F = 49.620$ ,  $P = 0.000$ ,  $SEE = 2.29$ ) and closely aligned with the data (Ramsey RESET:  $F = 1.566$   $P = 0.209$ ). The evaluated self-efficacy and perfectionism subscales (high standards - PHS and discrepancy - PD) altogether stood for over 15% variability of moral AL ( $R^2_{adjusted} = 0.152$ ). Positive influence on moral AL was observed for SE ( $\beta_{std} = 0.54$ ) and PHS ( $\beta_{std} = 0.47$ ). However in the case of PD, it was observed to have negative influence ( $\beta_{std} = -0.52$ ). Two interactions were also recorded: first - SE and PHS (negative), second - PHS and PD (positive).

**Discussion and Conclusions:** Perfectionism and SE could play an important role in development of moral AL in health care. However, maladaptive perfectionism can decrease the effectiveness of moral AL. For this reason, a special curriculum must be developed for strengthening the adaptive perfectionism and self-efficacy in health science students. It could be helpful in a curriculum of communication skills training, which should develop perfectionism and self-efficacy in context of moral clinical work.

**Take-home Messages:** Self-efficacy and perfectionism can best support students' moral AL development.

## #3JJ Poster - Management and Leadership

### 3JJ04 (1713)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Early Empowerment of Undergraduate Students to Become Independent Leaders in Academic Medicine

#### AUTHOR(S):

- Rachel Wing Chuen Lai, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Ka Hou Christien Li, Faculty of Medicine, Newcastle University, UK
- Keith Sai Kit Leung, Aston Medical School, Aston University, Birmingham, UK
- Ishan Lakhani, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong
- Tong Liu, Department of Cardiology, Tianjin Institute of Cardiology, China
- Gary Tse, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** Modern medicine is trending towards ultra-specialization. Yet, emphasis in leadership remains an essential skill for becoming successful, independent and well-rounded biomedical researchers. The aim of this pilot study is to elucidate the feasibility of nurturing medical undergraduate leaders in academic medicine.

**Summary of Work:** Undergraduates with interests in academic medicine and with less than 3 months of previous research experience were recruited to join the Laboratory for Cardiovascular Physiology at the Li Ka Shing Institute of Health Sciences, the Chinese University of Hong Kong. Personalised training through the adapted 'Learn one, do one, teach one' model were provided to potential students in becoming independent researchers with the aim of leading less experienced students in scientific studies as senior authors. Beside publication skills, they were encouraged to develop their communication and networking skills through experiential learning at academic conferences, establish student-led societies and platforms while seeking out intramural and extramural research funding.

**Summary of Results:** In this pilot model, four medical students were recruited into our leadership development programme. Students were taught the principles of research from start to publication and presentation over a mean period of 12.6 months. In total, the students published 31 international peer-reviewed articles and attended 14 conferences to present 17 oral or poster presentations. Two student produced abstracts that were selected for best oral presentations on three separate occasions. They also successfully mentored 41 junior students, serving as senior authors in 8 publications. One student served as the founding president of the Student Cardiovascular Society at his medical school, obtained an intramural funding for a 3D printing for anatomy education and was awarded two prizes for academic research. The second student obtained extramural donation (€45,000EUR) to establish a health promotion initiative coupled with public health research for ethnic minorities.

**Discussion and Conclusions:** The pilot model equipped students with foundational peer leadership skills, social intelligence and sense of responsibility in academic medicine with personal mentorship, practical field experience and international research exposure.

**Take-home Messages:** Medical students can demonstrate leadership skills early in academic medicine through an adapted 'Learn one, do one, teach one' model.

## #3JJ Poster - Management and Leadership

3JJ05 (1107)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Investigation on medical students' leadership and its influencing factors: A study from Shantou University Medical College, China

#### AUTHOR(S):

- Zhanqin Huang, Shantou University Medical College, China (Presenter)
- Dongqing Zhang, The First Affiliated Hospital of Shantou University Medical College, China
- Guanhua Fan, Shantou University Medical College, China
- Junhui Bian, Shantou University Medical College, China

#### ABSTRACT

**Background:** Leadership development is an important part of university education. The emphasis on leadership education in medical school has been just started in China and gradually be taken seriously. The aim of this study is to investigate the degree of leadership and its influencing factors of medical students at Shantou university medical college.

**Summary of Work:** We used the literature analysis, questionnaire survey, statistical analysis in this research. The modified "college students' leadership assessment scales" was used to measure the undergraduates leadership. We investigated the potential influencing factors by using self-made "college students' family background, social participation and school activity questionnaires". There were 838 medical students involved in this investigation. 812 copies of valid questionnaires were collected. The reliability and validity of the questionnaires were examined.

**Summary of Results:** The scores of undergraduates' leadership is measured by the typical five-level Likert scale. The medical students have good performances on decision making, activity planning, communication and management in organization. However, they have low scores of personal responsibility and motivation to be a leader. The students from city or comparatively developed areas have higher scores than the students from rural areas or economically underdeveloped areas. The students who have been the leaders of student organization have higher scores than others who have no experience. The family background had impact on the degrees of student leadership. The family social capital, financial situation and cultural background have positive correlation to the levels of student leadership. There was a significant correlation between the level of social participation and the undergraduates' leadership. The activities of the school, such as organizational participation is significantly related to the undergraduates' leadership.

**Discussion and Conclusions:** The findings showed that the family background, social participation and school activities could influence the degrees of undergraduates' leadership. It suggested that we need to optimize the curriculum system to improve the leadership of undergraduates. We should educate the students to enhance the awareness and ability of social participation, enhance the school activities' atmosphere, improve the function of community's leadership training.

**Take-home Messages:** Leadership education should be emphasized and improved in Chinese university.

## #3JJ Poster - Management and Leadership

3JJ06 (1377)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Cross-cultural understanding contributes to leadership competency development among health professionals during their global health experience

#### AUTHOR(S):

- Mikio Hayashi, The University of Tokyo, Japan (Presenter)
- Daisuke Son, The University of Tokyo, Japan
- Masato Eto, The University of Tokyo, Japan

#### ABSTRACT

**Background:** Globalization has increased the opportunities available to healthcare professionals working in developed countries for providing clinical and educational support in other countries. However, it is unclear how the experience contributes to the leadership competency of healthcare professionals. Therefore, we explored this contribution with the objective of analyzing the process of individual leadership competency development. The study focused on the members of a multinational team of physicians, dentists, and nurses.

**Summary of Work:** In this study, qualitative descriptive data were collected in face-to-face, semi-structured interviews. The thematic analysis method used in this study involved generative coding and theorization. Japanese health professionals who participated in an international medical cooperation project as part of a multinational medical team were interviewed between July 2017 and March 2018, and data were analyzed and interpreted using a social constructivism paradigm.

**Summary of Results:** In total, 20 research participants, including 5 nurses, 5 dentists, and 10 doctors, with an average clinical experience of 15.3 years were interviewed. Through data analysis, 58 emergent themes were categorized into the following seven leadership competency areas: leadership concepts, teambuilding, direction setting, communication, business skills, working with others, and self-development. The relationships among the leadership competency areas were identified. Individual leadership competency development associated with leading a medical care team was related to “understanding the environment of other cultures.” Additionally, the concept of “developing and empowering others” was associated with the actual delivery of medical care. Experience in “conflict management” during actual global health clinical practice led the participants to reflect on their communication and business skills. There were differences in leadership competency areas among professions: nurses particularly reflected on communication skills toward patients, dentists reflected on business skills, and physicians reflected on leadership concepts and teambuilding.

**Discussion and Conclusions:** This study clarified the process of individual leadership competency development through global health experience. The findings provide information on expected learning competency for those considering medical practice in other countries in the future.

**Take-home Messages:** Leadership competency development among health professionals is based on the idea of cross-cultural understanding during their global health experiences.



## #3JJ Poster - Management and Leadership

3JJ07 (762)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Piloting a formative assessment tool on leadership and communication skills in Emergency Medicine residents at Pontificia Universidad Católica de Chile

#### AUTHOR(S):

- **Sofia Basauri Savelli, Pontificia Universidad Católica de Chile, UK (Presenter)**
- Mandy Moffat, Centre for Medical Education, University of Dundee, UK
- Oscar Navea Carrasco, Pontificia Universidad Católica de Chile, Chile
- Hans Clausdorff Fiedler, Pontificia Universidad Católica de Chile, Chile
- Felipe Maluenda Barrientos, Pontificia Universidad Católica de Chile, Chile

#### ABSTRACT

**Background:** Developing leadership and communication skills is a fundamental aspect of healthcare professional's training and should be considered within the curriculum. This study aimed to pilot a formative assessment, observing senior Emergency Medicine (EM) residents as team leaders. The formative aimed to encourage reflective practice, self-awareness and allow residents to identify their future learning needs.

**Summary of Work:** The assessment tool was developed using educational frameworks, institutional policies and stakeholders' opinions. A list of competencies to be measured was identified and constructed into a checklist. Three residents were observed during three shifts each by senior staff members. All participants were asked to watch an explanatory video of the project before the implementation phase and to reflect upon their experience during the process, providing guidance questions. At the end of each shift, staff members provided feedback and discussed with the resident an action plan for improvement. Upon completion of three observations, both staff and residents provided a written reflection of their experiences.

**Summary of Results:** Reflections from residents and staff showed that they found this activity useful, suggesting that it becomes part of the curriculum. Residents describe how it gave them more clarity on what their responsibilities were and how to manage themselves, increasing their confidence. They found the checklist and immediate feedback useful for identifying strengths and weaknesses. Staff members found the assessment tool useful, however timely feedback was a challenge. The activity did not negatively impact on the normal running of the clinical area. Residents described how their view of leadership changed and requested further training on EM leadership and administration skills.

**Discussion and Conclusions:** Reflections from this pilot study confirm the need for including assessment of abstract skills such as leadership and communication in our EM training programme. Formative assessment led to residents feeling better prepared to perform as team leaders and plan for further development. A similar formative assessment could be used in other contexts to assess and develop these skills.

**Take-home Messages:** This formative tool allowed assessment of leadership and communication skills in the workplace. Residents describe increased confidence and understanding of their responsibility as leaders. This experience encouraged reflection and identification of learning needs.

## #3JJ Poster - Management and Leadership

3JJ08 (1800)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Collaborating for a unified curriculum in Developmental Paediatrics: Process and Outcomes

#### AUTHOR(S):

- Katharine Gardiner, University of Notre Dame Australia, Australia (Presenter)
- Bradley Jongeling, University of Western Australia, Australia
- Joanne Somerville, University of Western Australia, Australia
- Ellen McKinnon, University of Western Australia, Australia
- Robin Guttinger, University of Notre Dame Australia, Australia

#### ABSTRACT

**Background:** With the establishment of a third medical school in Western Australia, the resultant need for clinical placements and collaboration in curriculum development and delivery in a small subspecialty has been highlighted. Developmental paediatrics service provision is coordinated centrally, with paediatricians working in multi-disciplinary teams in community child health centres. Most teaching and supervision on clinical placements will thus be delivered by the same clinicians, regardless of a student's university affiliation. We are aiming to produce a teaching curriculum that includes core concepts in the specialty as well as meeting each university's learning objectives. It also needs to fit with delivery of clinical services.

**Summary of Work:** Developmental paediatricians, the service manager and academic leads from each university have a series of meetings to review core specialty concepts, current methods of curricula delivery, preferred teaching strategies and other affiliated learning foci. The integral role of inter-professional collaboration in the specialty, the appropriate nature of clinical experience for students and the logistics of arranging clinical placements in geographically diverse centres are identified from preliminary scoping work.

**Summary of Results:** This presentation will focus on the methods for developing agreement on core content and concepts, the nature and collation of common curriculum resources and how these will be made available for students in their institution, either on clinical placements or through the learning management system of each university. We are also adapting resources for use within each university to meet their institutional needs and teaching methods. A common approach for clinical placements for individual students also needs to balance the needs of the service, the limited time of supervising clinicians and the benefit to the student for their learning and clinical practice.

**Discussion and Conclusions:** There is goodwill and common ground among all members but the competing pressures of clinical and academic roles, the need to work within frameworks of three universities and the centralised health service make this project challenging. The ultimate aim for a common curriculum that does meet the objectives for all stakeholders is worth pursuing.

**Take-home Messages:** Inter-university curriculum collaboration is achievable but is more manageable in small subspecialties where clinical placements are managed by a cohesive group of clinicians.

## #3JJ Poster - Management and Leadership

3JJ09 (1816)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Lay representatives: what difference do they make?

#### AUTHOR(S):

- Kim Walker, University of Aberdeen, UK (Presenter)
- Judy Wakeling, NHS Education for Scotland, UK
- Julie Ferguson, NHS Education for Scotland, UK

#### ABSTRACT

**Background:** In recent decades, many healthcare organisations have begun to use ‘lay’ representatives - the representation of members of the public on decision-making committees and throughout the hierarches of medical institutions. NHS Education for Scotland (NES) is an education and training body and a special health board within NHS Scotland, with responsibility for developing and delivering education and training for the healthcare workforce in Scotland. In 2009, it introduced lay representatives onto local and national committees and panels relating to the management of postgraduate medical education and training. Between 2016 and 2018 NES undertook a research project to gather in-depth data on the role of lay representatives within the organisation.

**Summary of Work:** Lay representatives who had recently relinquished their role together were purposively sampled and invited to participate in telephone interviews using a semi structured questionnaire to provide detailed feedback on their perception of the role, their impact and any difficulties they had encountered. NES panel Leads/Chairs were also interviewed to gain perspectives from the ‘other side.’ The data were analysed in NVivo 9 (qualitative data coding software) using template analysis.

**Summary of Results:** A total of 25 lay representatives and six NES Leads were interviewed. Almost all of them came from a professional background. The key themes identified were: Making a difference; Difficulties with the role; Diversity in the role; and Maintaining an outsider perspective. Nobody considered that the role was “tokenism”.

**Discussion and Conclusions:** Lay representatives have now become well integrated into NES. However, there can be difficulties with the role and since most had a professional background some lay representatives felt their talents are being under-utilised, a case of differing expectations which can be a sensitive area to manage. Different roles for the lay representatives almost meant their involvement varied. Diversity both in terms of profession and ethnicity in this group to more fully represent the population they serve would require positive recruitment.

**Take-home Messages:** Whilst lay representatives can bring important life skills to their role, there will always be limits to the extent to which their presence in a healthcare organisation ensures transparency and full external scrutiny.

## #3JJ Poster - Management and Leadership

### 3JJ10 (1680)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Design and validation of a real and perceived academic workload measurement instrument for students of health-related undergraduate programs

#### AUTHOR(S):

- José Peralta Camposano, Universidad De Chile, Chile (Presenter)
- Natalia Harden Díaz, Universidad De Chile, Chile
- Constanza Pino León, Universidad De Chile, Chile
- Shenda Orrego Molina, Universidad De Chile, Chile
- Sandra Flores Alvarado, Universidad De Chile, Chile
- Javiera Esturillo Pinet, Universidad De Chile, Chile

#### ABSTRACT

**Background:** Literature on academic workload shows us how this concept can be separated into three dimensions: declared, real and perceived workload. The first of those corresponds to studying time as declared by academic schedules; the second, to real working hours from students; and the third, to a subjective measure of the workload. Along with that, there exists a series of factors that explain the students perception on their workload.

**Summary of Work:** The present work's objective is to design and validate an instrument that allows us to measure both real and perceived academic workload for higher education students from the health area. The questionnaire was built based on a bibliographic revision and the conduction of two focus groups conformed by various undergraduate programs' students from the Medicine Faculty of the Universidad de Chile. It was, afterwards, submitted to three qualitative pre-tests. To evaluate the survey content's validity, we recurred to a 14 national and international expert panel. The analysis was performed according to the Content Validity Ratio and the Content Validity Index, proposed by Tristán-López.

**Summary of Results:** The final instrument consists of a self-applied questionnaire with both a characterization section (10 questions) and one concerning academic workload by subject and semester (5 and 2 questions, respectively). The complete instrument was validated with an 84% consensus between the judges. Both tests, when applied by sections, were approved with a 77% and a 94% agreement, respectively. Each question, after being individually analyzed by the judges, was validated. Nevertheless, it was decided to collect the expert panel's commentaries to improve the sentences clarity.

**Discussion and Conclusions:** It is possible to assure, considering these results, that the proposed instrument constitutes a contribution for the measurement of real and perceived academic workload by the students. Therefore, its results can constitute a valuable input to the scholar and/or student support organisms in health education contexts.

**Take-home Messages:** The development of this study shows us the importance of considering multiple approaches when deciding how to study academic workload, as it is a complex and multidimensional problem which has to be issued under an interdisciplinary approach.

## #3JJ Poster - Management and Leadership

3JJ11 (1054)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### OT role-emerging placements in primary care

#### AUTHOR(S):

- Emily Chamberlain, GP Education Unit, Southampton, UK (Presenter)
- Juliette Truman, University of Southampton, UK
- Samantha Scallan, GP Education Unit, Southampton, UK
- Amanda Pike, Health Education England, UK
- Johnny Lyon-Maris, GP Education Unit, Southampton, UK

#### ABSTRACT

**Background:** GPs in the UK are under significant pressure in delivering primary care and this has highlighted the need for workforce development. Occupational Therapists (OTs) are highly skilled practitioners working across health and social care sectors. Educated at pre-registration level to work with physical and mental health issues, OTs can potentially provide valuable support to GPs. To date OTs are not routinely utilised within Primary Care. For over ten years the University of Southampton OT Department has developed placements in a range of settings for students, but never previously in primary care.

**Summary of Work:** Four role-emerging placements were developed across four different primary care settings in Hampshire, UK. Three challenging clinical areas were identified in which OT students could gain experience and complement their undergraduate studies: frailty, mental health and learning disabilities. The focus of this study was to determine whether role-emerging placements in primary care enhanced the learning of OT students. A case study approach was used to evaluate the project. Methods of data collection for this study included: observation of small group teaching sessions and end of placement interviews with students, educators and members of the primary care teams involved in the placements.

**Summary of Results:** Role-emerging placements allowed for a deeper understanding of the breadth of skills Occupational Therapists could offer primary care. OT students were able to develop generalist skills as independent practitioners, consolidate their learning from previous placements and develop a deeper sense of professional identity.

**Discussion and Conclusions:** Placements in primary care settings provided exposure to mixed caseloads across frailty, mental health and learning disability. OT students developed a deeper understanding of working within primary care and it's potential as a career option whilst offering insights to the primary care team of the added value of Occupational Therapy.

**Take-home Messages:** OTs are an under-utilised profession in frontline primary care. The role of OT has not been well researched as a first point of contact healthcare professional in primary care. OTs broad training in mental health, physical frailty and learning disabilities are potentially valuable to service delivery in General Practice.



## #3JJ Poster - Management and Leadership

3JJ12 (1260)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### House System Inspired by Hogwarts House from the “Harry Potter” Movie

#### AUTHOR(S):

- Hataitip Tangngam, Nakornping Medical Education Center, Thailand (Presenter)
- Worachet Techarak, Nakornping Medical Education Center, Thailand
- Pornsuda Krittigamas, Nakornping Medical Education Center, Thailand

#### ABSTRACT

**Background:** 4th - 6th year medical students are divided into four houses including Ruby, Amethyst, Sapphire and Emerald. Each house is under the authority of a group of Nakornping staff members. The Heads of the houses are in charge of giving their students important information, improving medical school performance, increasing social support, encouraging student-mentor relationships, improving self-esteem, dealing with stress, and responding to emergencies in their houses. Throughout the academic year, the houses compete for the house cup, gaining points based on extracurricular activities such as performance in a Welcoming ceremony, at a New Year party and during a Teacher's Day.

**Summary of Work:** In this qualitative study, a total of 60 clinical year medical students were asked to complete an open-ended questionnaire about their attitudes and feelings about the House system. The data was analyzed by using coding and thematic analysis.

**Summary of Results:** All of the medical students were satisfied, gave positive responses and expressed enjoyment in participating in this House system. Their reasons can be summarized as followed: 1) It will encourage participation in extracurricular activities. 2) It will simplify bonding between junior and senior students, so they can help each other in their House 3) It will provide an opportunity to meet their mentors frequently and develop positive relationships between students and teachers 4) Create activities which provide some challenge with the aim of reducing stress. For the next year, it is suggested that we provide some outdoor activity such as a Sports Day between Houses and invite interns to join the Houses.

**Discussion and Conclusions:** The House system is intended to help students learn the value of competition, how to build respect and learn teamwork, develop group responsibility and relieve stress.

**Take-home Messages:** This House system, as in the Harry Potter movie, could not only be a part of extracurricular activities, but also emphasize the importance of a mentoring system.

## #3JJ Poster - Management and Leadership

3JJ13 (1223)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### How to implement Team Resource Management in the clinical settings for head nurses

#### AUTHOR(S):

- Tzu Sang Chen, Tungs'Taichung Metro Harbor Hospital, Taichung, Taiwan (Presenter)
- Ching-Shiang Chi, Tungs'Taichung Metro Harbor Hospital, Taichung, Taiwan
- Chien-Chien Tung, Tungs'Taichung Metro Harbor Hospital, Taichung, Taiwan

#### ABSTRACT

**Background:** Team resource management (TRM) training has been introduced in the clinical settings for years; However, how to effectively implement the concept to the clinical setting is difficult after 1 hour in-class course for most head nurses by report. The aim of this work is to enhance the use of knowledge of nursing supervisors through a multidisciplinary TRM training model.

**Summary of Work:** The head nurses of different specialties participated in this study. Leadership, Situation Monitoring, Mutual Support, Communication were the major modules of the course. The training workshop was held for 12 hours, divided into 3 stages. It first focused on the implementation strategy that was delivered by expert speech and video appreciation. The second stage was scenario simulation and group discussion. In the third stage, the TRM theory was applied to the clinic in the actual exercise model. Learners also used the line group to exchange feedback.

**Summary of Results:** A total of 16 head nurses participated in this workshop, with 20.2 average working years. The females accounted for 100%. The average satisfaction score of the students was 100 points. In January 2019, a total of 5 supervisors (31.3%) have been used in morning meetings, hand off and rounds. After sharing experience with one another, they gradually increased their willingness to display the training schedules, which can improve the knowledge of nursing supervisors. Line group experience sharing can stimulate the will of practice.

**Discussion and Conclusions:** Clinical nursing teaching has always retained the concept of traditional classroom teaching. This course focuses on effective reflection and designing courses in a graded manner. Joining the Line group to share experiences can stimulate the willingness to use. The use of the TRM training model can improve the clinical application of nursing supervisors. The author tries to use the sub-teaching method and establish the Line sharing group, which is more effective than the traditional "classroom" method.

**Take-home Messages:** Multiple teaching methods and line group establishment can promote head nurses' utilization in TRM in the clinical settings.

## #3JJ Poster - Management and Leadership

3JJ14 (1423)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Adapting to Challenges in Promoting an Inter-Institutional Research Collaboration Model in Bahrain

#### AUTHOR(S):

- Davinder Sandhu, Royal College of Surgeons In Ireland, Medical University Bahrain, Bahrain (Presenter)
- Randah Hamadeh, College of Medicine and Medical Sciences, Arabian Gulf University, Bahrain
- Durjoy Shome, College of Medicine and Medical Sciences, Arabian Gulf University, Bahrain

#### ABSTRACT

**Background:** Bahrain an archipelago in the Arabian Gulf has a population of 1.2m people and two medical schools at Royal College of Surgeons in Ireland, Bahrain (RCSI Bahrain) and the College of Medicine and Medical Sciences, Arabian Gulf University (AGU). There is increasing recognition by UNESCO and Universities that research collaboration has many advantages with greater access to faculty and learner's critical mass, savings on capital and equipment cost, building relationships to utilise the expertise as well as wider dissemination of outcomes. With the objectives of the above through optimum utilization of available resources, a key priority of both Universities vision was to create mechanisms to fulfil these aspirations.

**Summary of Work:** How was the joint research collaboration established? • Since 2014 created a common research fund exceeding \$250,000 over 5 years. • Sharing capability and facilities such as the animal house, cell culture techniques. • Each project has at least two investigators from each University, thus a convergence of expertise. • Opportunities for students to engage. • Co-authorship of publications and conference presentations.

**Summary of Results:** Research collaboration outcomes: • Since 2014 a joint senior steering group oversaw this initiative. • Seven projects funded and another 2 will be supported in 2019. • Complementary facilities and techniques used - animal house, tissue culture lab, specialized equipment. • Co-author publications (2) and around 10 conference paper-presentations to date. • Organization of the first AGU/RCSI joint research conference 2019 • Increasing collaboration with student placements, teaching and examination of thesis.

**Discussion and Conclusions:** Research collaboration is defined as working together to jointly produce new knowledge with wide applications in a cost effective manner. This includes advice and insights as well as practical working. Additional spin off is the professionalism affecting attitudes and behaviours. This model has been achieved in Bahrain by increasing the visibility, cross fertilization of ideas and productivity of research to mutual benefit. There has been good uptake by basic scientists, and future development will be to increase the involvement of clinical faculty.

**Take-home Messages:** Higher education institutions in developing nations must collaborate to ensure that research, teaching and learning are directed in a cost effective manner to achieve regional benefit.

## #3JJ Poster - Management and Leadership

3JJ15 (1784)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Perception of High Value, Cost-Conscious Care Amongst Undergraduates: Attitudes, Barriers, Environment and Clinical Role Model - A Longitudinal Cohort Study

#### AUTHOR(S):

- Joo Wei Chua, National University Health System, Singapore (Presenter)
- Desmond Teo, National University Health System, Singapore
- Reshma Merchant, National University Health System, Singapore

#### ABSTRACT

**Background:** Providing high value, cost-conscious care (HVCC) is a critical 7th general competency for physicians yet it is often not included in undergraduate medical school curriculum. There is general agreement that countries with fast-ageing population and increasing medical complexities will lead to increased healthcare cost. Role models during clinical years committed to delivering HVCC was often mentioned as an important factor in many studies.

**Summary of Work:** We conducted a longitudinal cohort study using mixed methods for medical students from Yong Loo Lin School of Medicine, Singapore. A survey was conducted among graduating medical students (Y5) to understand their changes in attitudes, barriers and role-modelling towards HVCC compared to their time in Year 3 (Y3). Focused group discussions were also conducted to explore the impact of their training on HVCC.

**Summary of Results:** Among 167 respondents (response rate 55.3%), slightly more Y5 had heard of HVCC (51% versus 46% Y3) with similar numbers agreeing to it being taught in medical school. More than 2/3 agreed that physicians are key drivers of high healthcare cost. Slightly more Y5 (35%) compared to Y3 (29%) agreed that it is unfair to ask physicians to be cost-conscious and still keep the welfare of their patients foremost. More than half of Y5 (59% versus 44% Y3) agreed that it is easier to order a test than to explain to the patient on its necessity. Similar numbers agree that organizational culture matters. More than 2/3 of Y5 agreed that ordering fewer tests increases risk of malpractice litigation compared to half of Y3. Y5 are also exposed to more negative role-modelling behavior than in Y3. The focused group results will be available by August.

**Discussion and Conclusions:** To ensure a sustainable healthcare system, future doctors need training in providing HVCC through the creation of a supportive environment involving positive role models for delivering HVCC care and integration of HVCC in the longitudinal curriculum.

**Take-home Messages:** A multi-pronged approach in a supportive environment to promote HVCC practice would be essential to equip the doctors of tomorrow to practice good medicine in the era of rising healthcare costs.

## #3JJ Poster - Management and Leadership

3JJ16 (104)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Funding Level and Trends of Medical Colleges and Universities in China: 1998-2013

#### AUTHOR(S):

- Wu Hongbin, Institute of Medical Education, Peking University, China (Presenter)

#### ABSTRACT

**Background:** Medical education is arguably the most expensive tertiary education. In recent years, especially after 2008, the Chinese central government has adjusted the financial policy to allocate more funding for medical colleges and universities. Existing studies can hardly provide an overall picture of the funding level in medical education.

**Summary of Work:** We base our study on the restricted-use institutional data reported by China's Ministry of Education. We choose the period of 1998-2013 to avoid potential influence from official changes in accounting system. Our sample contains 186 medical colleges in China. Among them, 21 are key medical schools, 25 are traditional Chinese medical schools, 64 are non-key undergraduate medical schools, and 76 are junior medical colleges. Statistics are calculated to describe funding level as well as trends over years.

**Summary of Results:** Medical colleges and universities in China on average has a relatively low level of funding. For example, in 2013, the mean overall and per-student revenue levels in medical colleges are 301 million Yuan RMB and 22 thousand Yuan RMB respectively. Although the funding level for medical colleges and universities has increased for 6.3 times since 1998, the funding level per student has only limited increase (30%) during the same period. The increase in funding level of medical colleges and universities was mainly driven by two events: one is the merge of medical colleges into comprehensive universities during early 2000, and the other is the systematic increase in financial appropriation for medical schools from China's central government beginning in 2008.

**Discussion and Conclusions:** The current paper provides an overall picture of education finance for medical colleges and universities in China. The findings will be discussed from the perspective of educational and financial policy changes regarding medical education in China. Potential incentive mechanisms associated the relevant policies are also discussed.

**Take-home Messages:** Due to the lack of relevant data, there is a lack of literature on medical education funding around the world. We provide medical education funding evidence from China, and hope that countries around the world pay attention to medical education funding, reasonably formulate financial funding policies for medical education, and make contributions to improving the quality of medical education.



## #3JJ Poster - Management and Leadership

3JJ17 (2552)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Capacity building for nurses and allied health professionals to enable research evidence-based practice - a novel, proof-of-concept programme

#### AUTHOR(S):

- Silvie Cooper, University College London, UK (Presenter)
- Julie Sanders, St Bartholomews Hospital, Barts Health NHS Trust/Queen Mary University London, UK
- Nora Pashayan, University College London, UK

#### ABSTRACT

**Background:** Building research capacity for nurses and allied health professionals could enable successful translation of research into clinical practice, and improve patient care and outcomes. We report on the development of a proof-of-concept coordinated multi-strategy programme to build research capacity among nurses and healthcare professionals that surmounts many of the usual barriers to engagement.

**Summary of Work:** Our programme was informed by research evidence and developed in partnership our host National Health Service (NHS) Trust, and delivered to nursing and allied health professional (AHP) staff at the Trust. Programme activities included: a. Active dissemination of easily accessible research messages, relevant to clinical practice b. Increasing research literacy and interpretive skills through interactive masterclasses c. Mentoring point-of-care staff to enable translation of research evidence into practice.

**Summary of Results:** Engagement with the programme and initial feedback show that it is feasible to use this programme to deliver training to NHS point-of-care staff in their workplace. The impact of this programme on clinical practice and patient care is under evaluation.

**Discussion and Conclusions:** By delivering the programme in the workplace, and providing mentoring, this novel programme overcomes many of the traditional barriers to participating in continuous professional development. We built productive relationships between programme leaders and participants to understand the specific contextual and organisational needs of the group. We collaboratively developed the materials for research awareness activities, engaged a broad cohort through our masterclasses, and encouraged champions to be agents of change for implementing research evidence into practice.

**Take-home Messages:** 1. We surmounted many of the usual barriers to engagement with training by locating the programme in the workplace 2. It is feasible to deliver tailored training opportunities that reach a broad range of healthcare professionals by being responsive to contextual, organizational and learning needs and working collaboratively.

## #3JJ Poster - Management and Leadership

3JJ18 (2913)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Quality Improvement for the Undergraduate curriculum

#### AUTHOR(S):

- Ashish Ladva, King's College London (GKT), UK (Presenter)
- Sonal Srivastava, Kings College London (GKT), UK
- Jasmine Patel, Kings College London (GKT), UK
- Anistta Maheswaran, Kings College London (GKT), UK
- Ayantika Dhara, NHS, UK
- Bandipalyam Prathibha, NHS, UK

#### ABSTRACT

**Background:** Almost a decade ago, Paul Batalden and Frank Davidoff, argued that if healthcare was to achieve its full potential, 'change making' had to become an 'intrinsic part of everyone's job, every day, in all parts of the system'. The Academy of Medical Royal Colleges produced a report in 2016 highlighting the need for Quality Improvement (QI) to be part of the curriculum from the undergraduate years. Despite this, few medical school curricula have QI as an integral part. As one of the early groups of medical students to be part of this new curriculum at Kings College London (KCL), we describe our experience and argue that this should be a mandatory part of every undergraduate curriculum.

**Summary of Work:** QI project is part of the 4th year and includes an introductory session about the Model for Improvement. A group of students (usually 4) work together with a supervisor to undertake a project in the hospital where they undertake their clinical placement. One day a week is allocated for the QI project and two or more PDSA cycles are expected during the project. This is then assessed by oral and written work.

**Summary of Results:** Using the Model for Improvement, we studied and identified solutions to tackle poor compliance with National recommendations for the proper documentation of Non-Invasive Ventilation (NIV) at QEQM Hospital in Margate. As a result, we implemented a standardised NIV prescription and assessed its effectiveness. To undertake this project we needed to work with professionals from various disciplines. We received first hand experience of the challenges that are faced in implementing sustainable change in healthcare, and learnt ways of overcoming them. The importance of team work and time management was exceptionally clear.

**Discussion and Conclusions:** Undertaking the QI project, has provided us insight into the continuous nature of change-in-practice to provide effective patient-centred care. Having gained acumen that will change our practice for the better, as doctors we will be better equipped for the future. We argue that QI should be a mandatory part of the undergraduate curriculum in all medical schools.

**Take-home Messages:** QI should be considered an essential learning experience, as part of the undergraduate curriculum.

## #3JJ Poster - Management and Leadership

3JJ19 (1240)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The Perceptions of Workplace Bully in the Nursing staff - Group role-playing in a one-day workshop

#### AUTHOR(S):

- Yi-Fei Chung, Taiwan (Presenter)
- Tzu-Sang Chen, Taiwan

#### ABSTRACT

**Background:** Workplace violence is an issue that recognizes no national boundaries. Nurses face a higher than average level of violence in the healthcare institutions in which they work. If the workplace violence of nurses not properly managed and disposed of, is not only harmful to the personal and physical health of the nursing staff, but also may affect the morale of the work and the operation of the team, and endanger the quality of patient care, or even lead to the loss of nursing staff, causing serious harm to medical institutions and nursing professions. Besides, the hospital and nursing administrators should pay attention and grasp the degree of working stress to nurses.

**Summary of Work:** The purpose of this study was to explore the experiences and perceptions among nurses facing violence in their workplaces. The study was the one-day workshop that have 53 participants that have qualifications be a preceptor in from a regional hospital in the middle of Taiwan. The group project designed in the form of a one-day workshop, from warm-up activities, workplace bullying awareness, case analysis discussion, situation simulation, role-playing in group, experience of bullying and being bullied.

**Summary of Results:** The demographic characteristics of participants presented 53(100%) women and have qualifications be a preceptor with the average age was 33years old (S.D=5.7 years); the most common educational level was 4-year college (87%); 26.4% worked in the intensive care unit, 20% in the medical department, and 69.8% were the nurse staffs in the clinical, non-administrative. Results showed significant between the Pretest-posttest that use the Paired-Samples t test. After this one-day workshop, we also followed up nurses of bully, we got positive feedback form their supervisors and the introspection.

**Discussion and Conclusions:** Results provide specific data and insights into the prevalence of workplace violence faced by nurses in Taiwan. These findings may help nursing administrators, educators and healthcare managers prevent, reduce, and control such incidents in the future.

**Take-home Messages:** Old thinking lead to bad workplace in nursing, they always full of themself. The role-playing in group of one-day workshop can effectively improve the understanding of nursing staff on workplace bullying. The project should be list in the routine education.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK01 (2051)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A theoretical and conceptual framework for the investigation of Self-Regulated Learning by trainee clinical scientists on the UK Scientist Training Programme

#### AUTHOR(S):

- Megan Smith, University of Birmingham, UK (Presenter)
- Sharon Buckley, University of Birmingham, UK
- Sandie Gay, National School of Healthcare Science, UK
- Ian Davison, University of Birmingham, UK

#### ABSTRACT

**Background:** Self-regulated learning (SRL) describes how individuals control the cognitive, motivational, behavioural and affective aspects of their learning and how they achieve their goals. The need for health professional trainees to engage in SRL is well recognised, with SRL having benefits to both lifelong and workplace-based learning. The UK Scientist Training Programme (STP) is a pre-registration training programme for clinical scientists that combines workplace-based learning with a Masters in Clinical Science. Whilst STP trainees are expected to control their own learning, exercising autonomy and active participation, the nature of their workplace-based learning is not well-documented. An understanding of trainee clinical scientists' workplace-based learning, particularly the role of SRL, is needed to inform development of effective strategies to support trainees, trainers and other healthcare professionals involved in their learning.

**Summary of Work:** Theoretical perspectives were combined to help understand the learning strategies used by STP trainees; these were assessed through semi-structured interviews.

**Summary of Results:** Zimmerman's Cyclical Phases Model (Zimmerman and Moylan, 2009) was selected as a theoretical framework due to its grounding in social cognitive theory and articulation of SRL sub-processes. It was used alongside situated learning theory and four learning behaviours, synthesised by Milligan et al. (2014). Thematic analysis of interview responses suggests that STP trainees learn tactically and opportunistically in the clinical setting. Whilst e-portfolio requirements encourage SRL, some trainees set goals outside of the formalised curriculum, recognising their role as lifelong learners. Trainees' social connections influence their goals, learning strategies, self-reflection, and personal beliefs. Some trainees recognise how aspects of self interfere with their learning.

**Discussion and Conclusions:** Although the findings stress the unique workplace opportunities, the theoretical perspectives used in combination have advanced our understanding of the impact of intrinsic factors and social context on trainees' SRL. Potential implications for STP development are discussed.

**Take-home Messages:** The use of Zimmerman's model in combination with other theoretical standpoints provides an appropriate theoretical lens for investigation of this phenomenon.

**References:** Milligan et al (2014) Learning in Open Networks for Work, Life and Education, 93.

Zimmerman and Moylan (2009) A Handbook of metacognition in education: Routledge, pp. 311-328.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK02 (1771)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The impact of ability to self-evaluate knowledge on readiness for self-directed learning

#### AUTHOR(S):

- **Matej Žnidarič, Faculty of Medicine University of Maribor, Slovenia (Presenter)**
- Monika Sobočan, Clinic for Gynecology and Perinatology, University Medical Centre Maribor, Slovenia
- Sebastjan Bevc, Clinic for Internal Medicine, University Medical Centre Maribor, Slovenia
- Radovan Hojs, Clinic for Internal Medicine, University Medical Centre Maribor, Slovenia

#### ABSTRACT

**Background:** Self-directed learning (SDL) relates to an individuals ability to recognize appropriate study material and acquire the necessary knowledge on own initiative. SDL competent students frequently evaluate personal study progress and choose appropriate sources of information to learn new concepts. The purpose of our research is to evaluate the impact of students SDL ability on self-evaluation during longitudinal formative assessment.

**Summary of Work:** Medical students (n = 29) voluntarily participated in this study during an annual knowledge progress test (PT). The PT covered main clinical and preclinical topics with the use of MCQ type questions and an DKO option ("do not know option"). There were no penalties for incorrect answers during the PT. Prior to starting the exam, students were asked to complete the SRSSDL ("self-rating scale for self-directed learning") questionnaire. SRSSDL measures the ability of SDL on four dimensions of self-learning: "awareness", "learning strategies", "learning activities" and "evaluation". Our study analysed the correlations of SDL scores and the DKO score, used to evaluate insights of knowledge, on the PT. Data was analysed using the descriptive statistics and the Pearsons correlation.

**Summary of Results:** Our study shows, that higher scores in SDL components "learning strategies" (p=0.031; r=0.401) and "learning activities" (p=0.038; r=0.388) translated in this small group of medical students are linked to better alignment of expected and achieved levels of DKO. There was no statistically significant correlation among the SDL components "awareness" (p=0.636; r=0.092) and "evaluation" (p=0.115; r=0.299).

**Discussion and Conclusions:** Our study indicates that students SDL scores were closely related to the ability of self-evaluation during the PT exam, especially for learning strategies and learning activities. Previous studies showed, that awareness and learning activities developed during years of medical study, however, no significant difference was seen in the development of learning strategies and evaluation. To enable students to more accurately self-evaluate knowledge during medical school activities, schools should offer more training in learning strategies and activities.

**Take-home Messages:** This small pilot study shows, that there was a correlation of SDL subcomponents and DKO score accuracy. In order to train and improve students in their knowledge self-assessment accuracy, activities towards learning ability and strategy should be designed.



## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK03 (1059)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Self-directed Learning Readiness Scale in 4th - 6th Year Medical Student at Chonburi Hospital - a Community Hospital

#### AUTHOR(S):

- Yuthana Khongthip, Chonburi Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Self-directed learning (SDL) is considered an important skill in medical learning. Our curriculum, like many others, was constructed to promote SDL skill in the students. Readiness for SDL in our students has never been evaluated before. We sought to show readiness for SDL and identify significant characteristics that associated with high readiness for SDL in our students.

**Summary of Work:** A cross-sectional study was conducted. Students in the current clinical year (4th - 6th) were asked to participate. The SDL readiness scale (SDLRS) questionnaire which included a 5-point Likert scale of 40 items was answered by consented students. Characteristics collected were a medical school year, gender, the most preferred type of curricular activity (lecture, problem-based discussion, patient-based discussion) and grade point average (GPAX). The mean score ( $\pm$ SD) will be presented. The SDLRS of  $> 150$  was considered as high readiness and the proportion of students who have high readiness was compared in each factor.

**Summary of Results:** Of all 119 students, 92 responses were returned. Overall mean SDLRS was 145.7 ( $\pm 19.4$ ). The mean SDLRS in 4th, 5th and 6th year student was 140.7 ( $\pm 15.3$ ), 147.1 ( $\pm 25.7$ ) and 150.9 ( $\pm 12.2$ ), respectively, and was not significant different ( $p=0.117$ ). Thirty-eight percent of students (35/92) were highly ready for SDL (29%, 39% and 50% in 4th, 5th and 6th year, respectively). Gender (male) was the only significant factor associated with high SDL readiness, while other factors were not.

**Discussion and Conclusions:** Although there was a trend toward progression of SDL readiness in each higher medical year, it was not significant. The proportion of students who have high readiness for SDL was only 38%. Male students have higher proportion of readiness than female students.

**Take-home Messages:** Each institution should assess the SDL readiness of their students for the benefit of promoting this important skill.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK04 (2800)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Structured Self-directed Learning Model Preparing the Trainee for Subspecialty Board Certification Exams and Clinical Practice

#### AUTHOR(S):

- Amulya Nageswara Rao, Mayo Clinic, USA (Presenter)
- Deepti Warad, Mayo Clinic, USA

#### ABSTRACT

**Background:** Subspecialty board certification exams are considered a measure of a physicians mastery in that field following training. The exam follows a content outline, developed by content experts, reflecting the breadth and importance of clinical situations encountered while considering the constantly evolving medical literature. In our pediatric hematology/oncology training program (3 years), trainees are required to attend periodic board review sessions. A program evaluation done in 2014 showed our trainees were engaging in only 2-4 sessions (17-33% of the requirement) a year.

**Summary of Work:** Survey of former graduates revealed that lack of an educational structure/framework was the primary obstacle (100%) followed by challenges with coordinating trainee schedules (75%). Interventions including attendance tracking, trainees drafting their schedules, and program director oversight were attempted with no improvement. Ongoing challenges identified were: lack of an educational structure, sessions being too informal with lack of faculty involvement, and trainees being at different levels of learning. Two education series were introduced: 1. Article of the week/Board review series: One state-of-the art/high impact article based on the American Board of Pediatrics content outline specifications was e-distributed every week followed by 3 multiple choice questions (MCQs) per article. Trainees met once a month to re-review the articles and MCQs. Faculty were actively involved in the search/dissemination of the articles/MCQs but not the monthly review sessions, thus ensuring trainee autonomy while promoting trainee and faculty involvement. 2. Case-based education series: Each trainee was given a real-life clinical scenario by an experienced faculty mentor. After reviewing the case, faculty and trainees met as a group to practice clinical approaches as the clinical case unfolded under faculty guidance.

**Summary of Results:** This initiative resulted in 100% board review attendance, increased faculty participation, improved trainee confidence in clinical management, an online repository of more than 90 articles and a question bank with more than 300 MCQs.

**Discussion and Conclusions:** An experiential training model using abstract conceptualization and reflective observation has led to an educational practice improvement in our program.

**Take-home Messages:** Curricula promoting continuous, self-directed learning with clinically relevant and state-of-the art information can enhance faculty and trainee's educational experience.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK05 (1069)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Self-regulated learning in clinical practice: looking behind the curtain for understanding

#### AUTHOR(S):

- Katrien Cuyvers, University of Antwerp, Belgium (Presenter)
- Piet Van den Bossche, University of Antwerp, Belgium
- Vincent Donche, University of Antwerp, Belgium

#### ABSTRACT

**Background:** Notwithstanding the accentuated importance of and a growing interest in self-regulated learning (SRL) in clinical practice, empirical research is still very limited. Also, most often, offline cross-sectional self-report techniques are used to measure SRL in clinical practice retrospectively. This study aims to disentangle which SRL-strategies come out in the clinical environment (RQ1) and contribute to the empirical understanding of the dynamic nature of the process of SRL embedded in the clinical performance and progressing in time (RQ2).

**Summary of Work:** A longitudinal multiple case-study design was used including 13 physicians of different medical specialties in Flanders (Dutch speaking part of Belgium). Ethical approval was obtained. A multi-method approach was applied combining long term observations offering evidence on overt SRL-strategies. Physicians were shadowed and observable behaviors were used as cues for in loco stimulated recall interviews (SRI), asking about metacognitive strategies and the content of thoughts regarding a situation at hand. Field notes and audiotaped SRI were transcribed verbatim and integrated in a longitudinal database. Content analysis and grounded theory principles were applied to analyse the transcripts using Nvivo 12.

**Summary of Results:** Results show a variety of SRL-strategies. Metacognitive strategies not included in contemporary frameworks on SRL are indicated. Exemplary, awareness of learning needs is reported. Overt and metacognitive strategies for learning often originate in performance-goals. Overt learning strategies used to tackle difficulties during job-performance are for example consulting colleagues and guidelines. Metacognitive awareness is difficult to extract and medical specialists often report not to know how to monitor their learning. Reflection and evaluation can hardly be deduced from the data. Results show that SRL is strongly intertwined with clinical performance. A SRL-performance continuum appears from the data: from conscious and deliberate SRL, to self-regulation of performance.

**Discussion and Conclusions:** This study contributes empirically to a more comprehensive understanding of SRL in clinical practice. Insights from this longitudinal, situated study offer important handles for tailored in loco interventions to advance SRL during internships.

**Take-home Messages:** In particular metacognitive SRL-strategies focusing on the progression of learning such as for example monitoring, and reflection should be facilitated whereby cautiousness of educators is needed for not externally taking over regulation of the learning process.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KKo6 (2456)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Better Choice for Your Career - Pre-doctor experience camps create opportunities to realize the future for senior high school students

#### AUTHOR(S):

- Wen-Cheng Huang, Center for Education in Medical Simulation, Taipei Medical University, Taiwan (Presenter)
- Lin Yun Ching, Center for Education in Medical Simulation, Taipei Medical University, Taiwan
- Chiao-Li Chan, Center for Education in Medical Simulation, Taipei Medical University, Taiwan
- Che-Wei Lin, Center for Education in Medical Simulation, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** In the past, the career of Doctor is enviable worldwide. Actually, some medical students give up their learning because they don't like the "real life" in medical training. Therefore, we try to create an experience camp for senior high school students and help them to realize the Doctors job.

**Summary of Work:** A total 390 senior high school students participated in these camps during 4 years. The camps were held for 5 days. We arranged medical training as Interns/Residents. It includes history taking, physical examination, OSCE, duty on call, and clinical skills.

**Summary of Results:** During 5 day-curriculum, the results showed 390 students within 4 years have more Interests to be a doctor and their target becomes clearer or more definite by Pre-camp and Post-Camp questionnaires.

**Discussion and Conclusions:** We use 4 dimensions for evaluation of the influence after this experience Camp. It included Comprehension of a Doctors Routine/ Realization of the Skills a Doctor Needs/ The Challenges and Difficulties of Physicans Work/ Self Expectations. The results all showed they can more clearly understand the life of a doctor. If we want to choose suitable medical students, we could offer some opportunities to help them realize their job in the future. This Pre-doctor experience camp tried to create a simulated environment to let students make their best decision before they become doctors.

**Take-home Messages:** If we want to choose suitable medical students, we could offer some opportunities to help them realize their job in the future. This Pre-doctor experience camp tried to create a simulated environment to let students make their best decision before they become doctors.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KKo7 (3057)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Becoming a doctor: Students' perspectives in Germany

#### AUTHOR(S):

- **Peter Jan Chabiera, German Medical Students' Association, Germany (Presenter)**
- Johannes Kopp, Trier University, Germany
- Bernhard Gibis, National Association of Statutory Health Insurance Physicians, Germany
- Sylvia Hartmann, German Medical Students Association, Germany
- Jana Aulenkamp, German Medical Students Association, Germany
- Rüdiger Jacob, Trier University, Germany

#### ABSTRACT

**Background:** Among medical students in Germany the expectations on future working conditions in healthcare are partly quite different from the status quo in health care. Work-life balance, for instance, is a strongly discussed topic in the younger generation as well as where they want to work. To assess the preferences of doctors-to-be and identify trends for Germany's healthcare system in the future three surveys (2010, 2014, 2018) were performed.

**Summary of Work:** A link to an online questionnaire was sent by the medical faculties as a personalized e-mail to all medical students enrolled in Germany's faculties. Topics were expectations towards workplace, preferred disciplines, pros and cons concerning the work in hospitals and residency, working in multiprofessional teams and interprofessionalism, digitalization and work-life-balance. As the 2018-survey is the third 'visit' within 8 years, we have established a longitudinal-like-study and thus can present the course of developments over time.

**Summary of Results:** In 2018; 13915 (14,8% of all medical students) medical students in Germany took part in the survey. The most important expectation towards the workplace is the compatibility of family and work (named by 94.4%). Over 80% prefer to work part-time, especially women - and almost 70% of the medical students in Germany are women. General medicine has become more attractive over the last years (38.0% in 2010 to 42.5% in 2018). Surgery has lost attractiveness (29.3% in 2010 to 24.3% in 2018). Both trends are in particular of significance to more advanced clinical students. Furthermore, the countryside is not in demand as a place to work.

**Discussion and Conclusions:** We face significant changes in the expectations and demands of doctors-to-be concerning working hours, employers or self-employment, medical specializations and multiprofessional teams. Therefore, we face a unprecedented structural change in the Germany's system of medical care.

**Take-home Messages:** In coordination with the relevant stakeholders, national surveys can be established as a longitudinal study to investigate expectations and perspectives of medical students on their future career paths and working conditions. Strong differences between expectations and the status quo highlight the necessity of changes in health care's working culture in Germany.



## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KKo8 (3256)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Mapping specialty interests among Iranian medical students: results of a multi-center study

#### AUTHOR(S):

- Reza Hosseini Dolama, Tehran University of Medical Sciences, Iran (Presenter)
- Mostafa Arabi, Tehran University of Medical Sciences, Iran
- Alireza Rezaei, Tehran University of Medical Sciences, Iran
- Mahboobeh Khabaz Mafinejad, Tehran University of Medical Sciences, Iran
- Mojtaba Sedaghat, Tehran University of Medical Sciences, Iran

#### ABSTRACT

**Background:** In an era of increasing calls for accountability, achieving the right mix, distribution, and the number of physicians to meet societal needs is a major concern for healthcare policymakers. Recognition of factors affecting medical students career choices may be helpful in motivating them in opting less popular specialties and choosing a path of continuing professional development. By means of a national multi-centric survey, we aimed to investigate specialty interests of Iranian medical students, its trend along the continuum of their professional development, and factors affecting their career purposes.

**Summary of Work:** A cross-sectional multi-center survey of medical students was conducted using a standard researcher-made questionnaire to assess their perception of careers in 30 different specialties and quantify the role of each factor using Likert scales. Content validity of the questionnaire was examined by the nominal group technique. Reliability of the questionnaire was calculated by Cronbachs alpha (0.88).

**Summary of Results:** A total number of 2329 responses were gathered from 34 medical schools across the country. The association between students' specialty interests and their educational stages were analyzed. Cardiology (favored by 68.9%), Cardiovascular surgery (favored by 63.8%), and Ophthalmology (favored by 58.6%) were the most popular specialties among pre-clinical students whereas Occupational medicine (desired only by 3%) was the least popular. With a transition to the clinical stage, this trend changes; resulting in Cardiology (61.9%), Radiology (55%), and Ophthalmology (54.6%) being the most popular career choices and Geriatrics (4%) being the least favored specialty. Preference toward surgical specialties did not significantly vary between clinical and pre-clinical students (P-value= 0.197).

**Discussion and Conclusions:** Iranian medical students specialty preferences change widely during pre-clinical and clinical phases of medical educations with a significant trend. Further research is needed to investigate the role of different factors in medical students' tendency toward different specialties.

**Take-home Messages:** Cardiology is the most popular career choice among all Iranian Medical students.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK09 (2835)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Supporting Preparation for Practice in Radiotherapy Programmes

#### AUTHOR(S):

- **Beverley Ball, University of Liverpool, UK (Presenter)**
- Pauline Pilkington, University of Liverpool, UK

#### ABSTRACT

**Background:** As part of the pre-registration programmes in Radiotherapy, final year learners undertake a preparation for practice module, including completion of an application for a first post destination and interviews. Previously, mock interviews were undertaken as a face-to-face activity, but to reflect how recruitment is changing in the sector, e-interviews were introduced. The employability theme is embedded in modules to make Liverpool graduates able to compete in the changing climate of Health Care. The presentation will discuss the evolution and the preparatory workshops undertaken to support the learner with the final interview processes.

**Summary of Work:** The e-interviews compliment another aspect of speed dating style interviews whereby the learners (in small groups) move around stations answering a specific question aimed at an individual but with peer input and feedback from the interviewer. Learners fully participate in this experience, preparing themselves as if they were real interviews. It is an authentic learning activity: they have an opportunity to think about what they might be asked and prepare in advance, but during the interview have limited time to consider and present their answer. The activities prompt learners to read around the subject, and helps them learn how to deal with questions they are unable to answer deepening their understanding of their profession.

**Summary of Results:** The activities are placed in the curriculum before learners apply for jobs in their final year. The recording and answering of interview questions in small groups was evaluated as a major advantage over the traditional interview. Experiences of answering e-interview questions was a relatively pressured environment but allowed learners to see exactly how they appear at interview. In reviewing their own performance and considering their feedback, they had an opportunity to learn and improve.

**Discussion and Conclusions:** The small group work sessions allow for a variety of questions to be asked and answered individually, then with peer input and interviewer feedback (both written and verbal). Learner evaluation of the process is positive with a chance to review and reflect on feedback as a group and individually.

**Take-home Messages:** These methods of interview with supportive structured guidance workshops can be adapted and questions tailored to support any career area.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK10 (235)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Occupation choices and career success of medical technology undergraduates

#### AUTHOR(S):

- Yu-Chih Liang, Taipei Medical University, Taiwan (Presenter)
- Blossom Yen-Ju Lin, Chang Gung University, Taiwan

#### ABSTRACT

**Background:** Students studied in the field of medical technology are expected to work in the clinical medicine, biotechnology, or medical research sectors to enhance the quality of healthcare and people's health. This study explored the determinants of occupation choices and career success among medical technology undergraduates.

**Summary of Work:** Among all undergraduate students enrolled from 1991 to 2013 in the Department of Medical Technology and Biotechnology of a medical university, 1412 graduated. Four occupation types, namely clinical medical laboratory, biomedical science and technology, medical research, and nonmedical industries, were recorded. Career success indicators comprised occupational commitment, perceived job performance, income satisfaction, job satisfaction, quitting intentions, and life satisfaction. Academic performance, gender, age, school enrollment methods were measured as potential determinants. A (e)-mail survey was conducted combined with the institutional data. Descriptive analyses, logistic regressions, and multiple regressions were performed.

**Summary of Results:** Our study was composed of 799 respondents with 24% of the respondents with occupations in the clinical medical laboratory, 33% in the biomedical science and technology, 23% in the medical research, and 20% in the nonmedical industries. Our study revealed that academic performance, admission selection methods, and age generation were related to one's occupation. In addition, age generation, academic performance, job characteristics, family, and unusual work or life events were related to one's career success in different ways depending on how the success was defined.

**Discussion and Conclusions:** Academic performance is related to postgraduation occupation choices and career success. This is consistent with occupational self-efficacy theory. In addition, the age generation of undergraduates showed different patterns for their occupational preferences. Career success could be considered from a holistic perspective, through professional activity and personal life and undergraduates showed the different patterns for varieties of career success indicators.

**Take-home Messages:** Medical educators should be aware of the value of curriculum designs, namely content and context based on occupational self-efficacy theory verified in this study. The age generation of undergraduates showed different patterns for their occupational preferences should be noticed. Career success could be considered from a holistic perspective and undergraduates showed the different ways for varieties of career success indicators.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK11 (1875)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Career-Related Experiential Learning: Developing Success in the Academic Foundation Programme (AFP) at the University of Warwick

#### AUTHOR(S):

- Catrin Wigley, University of Warwick, UK (Presenter)
- Emily Reid, University of Warwick, UK
- Harvinder Mann, University of Warwick, UK
- Patrick Elder, University of Warwick, UK
- Claire Edwin, University of Warwick, UK

#### ABSTRACT

**Background:** Historically, the success of Warwick medical students in obtaining an Academic Foundation Programme (AFP) post in the UK was low (27th/33 Medical Schools in 2016, 32nd/33 in 2015). As an exclusively Graduate-Entry course, with many students possessing significant previous research and teaching experience, this seemed counter-intuitive. 'Why were good students not getting appointed to AFP?'

**Summary of Work:** An evaluation was undertaken revealing a need for students to be taught essential career management skills (including preparing for applications and interviews). Careers was thereafter integrated into the medical school curriculum, bolstered by provision of career guidance, in order to improve career decision-making and success rates. Within wider curricula efforts, a resultant programme of support for AFP was created, based on the premises of 'Experiential' and 'Reflective' Learning. Those applying to AFP attended a programme of support that enabled them to develop key skills through abstract conceptualisation (lectures), experimentation (small group teaching), concrete learning experiences (giving and receiving feedback from peers and Drs), reinforced by reflection in and on action. This was underpinned throughout by 1-1 careers guidance and support. The cycles repeated, building on each subsequent career session.

**Summary of Results:** The results for the past two years have transformed Warwick's success rate, with last year Warwick ending in joint 2nd place out of 33 Medical schools, (69% applications/offers), and this year with the highest amount of students having accepted places than ever before. Feedback was unanimously positive (n=33). Students strongly valued the opportunity to practice these skills (n=33) and believed that these would be important throughout their career. Feedback from students demonstrates the impact these careers interventions have on their learning, and ultimately, on their careers.

**Discussion and Conclusions:** Our integration of careers into the medical school curriculum using both experimental and reflective practices, we have seen a dramatic improvement in the performance of medical students in obtaining academic post graduate jobs in the UK. We look forward to the results of this years intake.

**Take-home Messages:** Formal integration of career skills into the medical school curriculum shows a vast improvement in successfully attaining highly competitive academic doctor roles.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK12 (2338)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The Research INvolvement, Determinants, Experiences, and Personality Traits of Health-care workers (Research IN-DEPTH) survey: Pilot results from New Zealand medical students

#### AUTHOR(S):

- Yassar Alamri, Canterbury District Health Board, New Zealand (Presenter)
- Diane Eley, University of Queensland, Australia
- C Robert Cloninger, Washington University, St. Louis, USA
- Erik Monasterio, Canterbury District Health Board, New Zealand

#### ABSTRACT

**Background:** The purpose of the study is to identify differences in personality traits of medical students, and to determine whether this impacts on specialty choice, research involvement and career satisfaction. With recent reports of high burn-out rates, as well as workplace bullying, a study such as this one is particularly timely.

**Summary of Work:** Medical students at our institution were invited to complete an online survey. We utilised the Temperament and Character Inventory (TCI), which is a well-validated personality test, and a demographic questionnaire. Data on chosen/prospective careers, and attitudes towards vocation and research were sought. The data presented are from a pilot for an ongoing longitudinal study.

**Summary of Results:** A total of 240 students (response rate 32%) completed the study survey. Male respondents constituted 32% of the study sample, and the median age was 22 years (range, 18-42). Data on career choices and personality characteristics are currently being analysed.

**Discussion and Conclusions:** Data on career choices and personality characteristics are currently being analysed.

**Take-home Messages:** We hope that the findings will provide understanding into what motivates medical students in their career choices and satisfaction.



## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK13 (1057)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

**What is the role of near-peer mentoring for medical students in better informing them about a career in general practice?**

#### AUTHOR(S):

- Anjali Gondhalekar, UCL (University College London), UK (Presenter)
- Manisha Gossain, UCL Medical School, UK
- Anne Fitzgibbon-Cadiou, UCL Medical School, UK

#### ABSTRACT

**Background:** It is essential that medical students can make informed choices about a career in general practice. A report released by Health Education England (Wass et al) titled 'By Choice-not by chance, supporting medical students towards a future career in general practice' outlined a number of recommendations on increasing recruitment into general practice. The report illustrated the need for strong general practice role models and a contribution from near-peers to better inform medical students about a career in general practice.

**Summary of Work:** Ethical approval was sought prior to the project being initiated. A qualitative study was carried out looking at perceptions of medical students before and after the introduction of a near-peer mentoring scheme between UCL medical school students and UCL affiliated GP trainees. Questionnaires and focus groups were undertaken before and after the near-peer mentoring project to consider changes in the perception of general practice as a result of near-peer mentoring and this was considered in the context of the theory of change. Responses were transcribed and thematic analysis carried out using Nvivo software.

**Summary of Results:** Near-peer mentoring was found to be extremely effective overall. Key themes elicited from thematic analysis included the fact that the major factor impacting students perception of general practice as a career was their experiences of general practice during their clinical placements prior to the introduction of the near-peer mentoring scheme. The scheme was found to enhance perception of the GP role model and provided students with a more holistic outlook on general practice as a career.

**Discussion and Conclusions:** This project highlights one of the approaches that can be utilised to enhance the image of general practice as a specialty for aspiring young doctors to be and may help to provide them with role models that they may aspire to become more like.

**Take-home Messages:** Whilst further research is necessary, this project clearly suggests that there is scope for a wider reaching near-peer mentoring scheme, which could provide vital information and inspiration into a career in general practice in a more formal way. Moreover the scheme could also be adapted for mentoring between different trainee levels as well as for different specialities.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK14 (1274)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Engaging in the world of psychiatry

#### AUTHOR(S):

- Roshni Khatri, Brighton and Sussex Medical School, UK (Presenter)

#### ABSTRACT

**Background:** Under the current mental health curriculum, many medical students develop distorted assumptions about psychiatry; that mental health patients are difficult or impossible to treat, that the basis of treatments is unscientific, and that psychiatry is vastly different from other areas of medicine. Threshold concepts and capabilities are those which have the potential to transform students' understanding of psychiatry, yet are often troublesome to cross cognitively.

**Summary of Work:** From semi-structured interviews with psychiatry educators and free-text questionnaires with medical students we identify three threshold concepts in the curriculum: therapeutic risk-taking, biopsychosocial model, and understanding diagnosis in psychiatry. Additionally, we identify two threshold capabilities: patient centred adaptability and caring for patients.

**Summary of Results:** These concepts by their nature are often hard for the learner to understand, such as the rationale behind the discharging of a patient with emotionally unstable personality disorder who continues to self-harm on a ward. Here the learner may be stuck in a liminal space, trying to understand something that at face value does not make sense, while the teacher must find a way to make this transition to understanding as smooth as possible. These concepts offer the opportunity to allow students to experience transformational moments in their understanding and demystify areas of uncertainty.

**Discussion and Conclusions:** Researching threshold concepts provided the framework for the task of improving the psychiatry training via clinical placements for medical students. By identifying troublesome and transformative aspects of learning, this allowed a focus on the challenges and struggles that students experience when grasping concepts in psychiatry. Involving both students and educators in the discussion of curriculum design allowed a dynamic and inclusive consideration of all stakeholders involved in the learning process.

**Take-home Messages:** These concepts and capabilities challenge students' distorted assumptions, hence we propose focused teaching activities that can help students cross these thresholds: engaging in explicit diagnostic reasoning, learning about the role of a psychiatrist, and psychotherapy skills. These activities can be integrated into the undergraduate curriculum to help medical students develop a better understanding and appreciation of psychiatry.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK15 (1746)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### When do medical students aim to be a doctor in Japan?

#### AUTHOR(S):

- Tomoko Miyoshi, Okayama University Hospital, Japan (Presenter)
- Mayu Uka, Okayama University Hospital, Japan
- Shuya Yano, Okayama University Hospital, Japan
- Sato Asuka, Okayama University Hospital, Japan
- Ogawa Hiroko, Okayama University Hospital, Japan
- Fumio Otsuka, Okayama University Hospital, Japan

#### ABSTRACT

**Background:** Medical students need to graduate from 6-year elementary school, 3-year junior high school, and 3-year high school in Japan. Universities give such chances as an open hospital for understanding medical school. High school and junior high school also have work experiences in their curriculum. In contrast, expectation of their parents, families and teachers are also influenced to students. Okayama University started the program of future career for students in third year medical school in 2015. The purposes of the program are “Thinking about social needs to medical students” and “Various working after graduation from medical school”. The program was settled between basic sciences and clinical sciences, and included a small group discussion about “What do you need doctors in the future in Japan?” and dialogues with doctors who selected various professions. Students answered to a questionnaire about their career after this program.

**Summary of Work:** 337 students participated this program. Average age was 22.1 year-old. Female students are 27.6 %. Most of students decided to be a doctor in high school days. Interestingly 21.7 % of medical students decided to be a doctor in their elementary school days. As the reasons, internal motivation was 32% and external motivation was 15%. 27% students were influenced by their parents and 15% students were by doctors. 40% students changed the images of their ideal doctor in their university life. Regional medical practice and medical research program were most influenced programs in the medical school. This Career program was also effected to students.

**Summary of Results:** Medical students are willing to a medical doctor when they are high school students. Internal motivation is the strongest reason to be a medical doctor. Parents and medical doctors also mostly influence high school students. Moreover, curriculum of medical school effects to medical students.

**Discussion and Conclusions:** It was reported that University students consulted about their career to families and friends more than faculties in Japan. Career education is important to medical school especially to lower year program.

**Take-home Messages:** Medical school students be ambitious!

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK16 (1203)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Mediating effects of learning culture on the relationship between positive psychological capital and career adaptability of Korean medical students

#### AUTHOR(S):

- Moonsang Ahn, Chungnam National University, School of Medicine, Republic of Korea (Presenter)
- Hye-Jin Lee, Chungnam National University Hospital, Planning & Budget Division, Republic of Korea
- Ji-young Kim, Korea University of Technology and Education, Department of Human Resource Development, Republic of Korea

#### ABSTRACT

**Background:** The purpose of this study was to identify mediating effects of learning culture in relation to positive psychological capital(PsyCap) and career adaptability of Korean medical students and to suggest the theoretical and practical implications for career development of medical students.

**Summary of Work:** The questionnaire consisted of PsyCap questionnaire(PCQ) by Luthans(2007), career adaptability scale by Savickas(2012) and dimensions of learning organization questionnaire(DLOQ) by Watkins(2003) modified by Yang(2003) were revised and used. The final 213 copies from the first to third graders of C National University, School of Medicine in Daejeon, Korea, were analyzed. For statistical analysis, structural equation model was analyzed using SPSS22 and AMOS22.

**Summary of Results:** The results showed that PsyCap of medical students had a positive effect on career adaptability, and learning culture mediated the relationship between two variables. As a result of analyzing the fit of the model, the  $\chi^2$  was 388.843, which was statistically significant. As a result of looking at the other fitness indices, RMR=.033, GFI=.904, AGFI=.861, CFI=.977 and RMSEA=.060, respectively. The statistical significance of direct effect, indirect effect, and total effect using bootstrapping was analyzed. The direct effect of PsyCap on learning culture was .692 ( $p < .001$ ), indirect effect was .174 ( $p < .01$ ) and total effect was .716 ( $p < .001$ ). And direct effect of learning culture on career adaptability was .251 ( $p < .01$ ).

**Discussion and Conclusions:** In this study, the partial mediating effect of learning culture was confirmed in the relationship between PsyCap and career adaptability. In Korea, medical school curriculum is reorganized to improve the self-directed learning and creativity of medical students, and the burden of academic achievements and specialty choice is increasing. In the fourth industrial revolution, we would like to suggest some implications for students career choices in a period when doctors career is diverse.

**Take-home Messages:** This study can be meaningful in that it suggests the directions for career development research of doctors in the future by identifying the relationship between career adaptability and related variables and suggesting the factors to consider for various career growth by applying HRD concept, which is emerging recently, to medical students.

## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK17 (1785)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The new Bologna Medicine Degrees have slightly improved the election of Family Medicine as a specialty in Spain

#### AUTHOR(S):

- Joaquin Garcia-Estañ, Universidad De Murcia, Spain (Presenter)
- Noemí M. Atucha, Universidad De Murcia, Spain
- Paola Romecín, Universidad De Murcia, Spain

#### ABSTRACT

**Background:** The Spanish system of medical specialization offered last year 6,513 places, for a total of 44 specialties. Family Medicine (FM), with 1,810 positions is the one that offers the most. But, choosing FM has been traditionally out of the scope of most medical graduates, being the last specialty to complete their positions. Among the causes considered is the little knowledge that medical students have of the specialty, due to the scarce presence of Primary Care (PC) in Medical Schools. We have analyzed the allocations of FM before and after the modification of Medicine Degrees, which obliged the Universities to offer formation in this area.

**Summary of Work:** The new Degrees in Medicine, adapted to the Bologna scheme, began in 2009-2010 and the first students graduated after 2013. Thus, we have compared the allocations of FM places in the period previous to Bologna (2007 to 2012) and after (2013 to 2018). The allocations were organized in 5 groups of 1,000 positions each. Data were obtained from official sources of the Ministry of Health ([www.msc.es](http://www.msc.es)).

**Summary of Results:** Before Bologna, most medical graduates (92%) choose Family Medicine in the last group, with only a 0,4% of the graduates that chose it among the first 1,000 positions. The second group had 0,97%, the third a 2,22%, and the fourth group had a 4,9% of graduates. After Bologna Degrees, these numbers improved slightly, almost doubling the graduates in the first and second group (0,7% and 1,64%;  $p < 0,05$ ), similar in the third (2,46%), greater in the fourth (7,2%) and a bit less in the last group (88%).

**Discussion and Conclusions:** The allocation of FM places has slightly improved after the entrance of medical graduates receiving mandatory formation in FM-PC. However, FM is still the least attractive specialty of all medical specialties in Spain. Other reasons different to the presence of FM-PC in the Schools of Medicine must be involved.

**Take-home Messages:** In spite of the reinforced presence of FM in the new Medicine Degrees, it is not an attractive medical specialty in Spain. This may be due to the applicants perceptions of bad working, professional, and remunerative conditions.



## #3KK Posters - Students: Self Directed Learning/Career Choice

### 3KK18 (463)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Can the supportive culture for career development affect turnover intention among nurses in Japan?

#### AUTHOR(S):

- Miho Satoh, Yokohama City University, Japan (Presenter)
- Ikue Watanabe, Tohoku Fukushi University, Japan
- Kyoko Asakura, Tohoku University School of Medicine, Japan

#### ABSTRACT

**Background:** The constant turnover rate among nurses in Japan has been a serious problem over the past decades as invaluable nursing human resources with adequate experience have departed. The crucial factors influencing this include lack of career development opportunities and not being able to develop commitment to nursing or a sense of professionalism. This study aimed to explore the associations among the supportive culture for career development, commitment to nursing, and turnover intention.

**Summary of Work:** A cross-sectional questionnaire survey was conducted at 12 hospitals in Japan. The questionnaires were distributed to 1,034 nurses employed in these hospitals; of these, the data of 596 nurses ( $17.73 \pm 10.01$  years of clinical experience, 96.5% female) (valid response rate: 57.6%) were analyzed. The participants responded to questions related to the supportive culture for career development (four items), occupational commitment (affective commitment, continuance commitment, and normative commitment), turnover intention, and individual attribution.

**Summary of Results:** Supportive culture for career development showed significant correlations with affective commitment, continuance commitment, and normative commitment. The hierarchical regression analysis indicated that the “feeling of professionalism and autonomy in nursing” and “organizations’ adequate support system for skill development” had a significant direct relationship with turnover intention (Model 1:  $\beta = -.200$ ,  $p = .000$ ;  $\beta = 0.150$ ,  $p = .001$ ; Model 2:  $\beta = -.131$ ,  $p = .003$ ,  $\beta = -.131$ ,  $p = .004$ , respectively). Affective commitment was associated with turnover intention in terms of “feeling of professionalism and autonomy in nursing” and “organizations’ adequate support system for skill development” (Model 2:  $\beta = -.152$ ,  $p = .001$ ).

**Discussion and Conclusions:** A workplace culture that fosters the feeling of professionalism and autonomy in nursing or support for skill development could increase the affective occupational commitment, thereby decreasing turnover intention among nurses. In hospitals, a supportive system and an education program for career development are required for the retention of highly skilled nurses.

**Take-home Messages:** Nursing administrators should develop education programs that would improve the nursing knowledge and skills of nursing staff. Such programs could strengthen their affective commitment to nursing or autonomy in nursing. Nursing staff are more likely to continue working within a supportive working environment that fosters career development and enhances their self-importance.

## #3LL Posters - Assessment: OSCE

### 3LL01 (3278)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of Interprofessional Teaching OSCE: Experience From an Single Tertiary Teaching Hospital in Central Taiwan

#### AUTHOR(S):

- Tsu-Yi Hsieh, Taichung Veterans General Hospital, Taiwan (Presenter)
- Wei-Ting Hung, Taichung Veterans General Hospital, Taiwan
- Yu- Hsueh Chen, Taichung Veterans General Hospital, Taiwan

#### ABSTRACT

**Background:** The intended educational goals of patient-centered care for early year residents in our hospital were evidence-based practice, interprofessional collaborative practice, and shared decision making. However, due to diversity of clinical situation, trainees may not have enough exposures, effective reflections or timely feedbacks upon above domains. Therefore, we implanted an interprofessional OSCE station in routine teaching OSCE section since 2017.

**Summary of Work:** Interprofessional OSCE course content was developed through focus group discussion which included more than two different health professions. Each trainee was assessed by two observers from different health professions with two different assessment rubric in the same time. 10 out of 15 criteria of assessment rubrics were the same. Observers needed to lead reflective feedback discussion from different aspects by course content instructions immediately after trainee and standard patient encountered. Extended learning material was provided to trainee according to assessment results.

**Summary of Results:** 15 PGY1 and 11 residents from internal medicine attended interprofessional OSCE in 2017. Trainee satisfaction to course content was 90.4%, satisfaction to observers' feedback was 93%. Out of 10 core criteria, agreement level differences between observers was noticed in 3 patient education related criteria.

**Discussion and Conclusions:** Interprofessional OSCE station could be one of teaching modalities for interprofessional education. Observers from different health professions could provide more holistic feedback for trainee.

**Take-home Messages:** Interprofessional teaching OSCE with two observers from different health professions could provide more holistic assessment and feedback for trainee in early years.

## #3LL Posters - Assessment: OSCE

### 3LL02 (1949)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Implementation of an OSCE at Medical Faculty of the Akaki Tsereteli State University

#### AUTHOR(S):

- Tamara Valishvili, Akaki Tsereteli State University, Georgia (Presenter)
- Irine Pkhakadze, Akaki Tsereteli State University, Georgia
- Tamar Pertaiia, Akaki Tsereteli State University, Georgia

#### ABSTRACT

**Background:** New Medical Education Benchmarks and preparation for international accreditation demands modernization of the Medical Education Program in different directions. The new, almost totally integrated curriculum causes to use new methods of student assessment, especially to test clinical skills, therefore thus, the implementation of the OSCE has become a significant challenge for team of faculty of Medicine of ATSU, especially in the background of the zero experience.

**Summary of Work:** The OSCE has been used to assess primary clinical skills for MD students. The examination, as Basic Clinical Skills course is conducted at the National Benchmarks simulation center of the Faculty of Medicine with full-equipped requirements. The students assessment was planned in 4 special stations to evaluate different skills. For example, the assessment of communicative skills was done in the first station, the technical performance of practical skills of primary care and resuscitation in urgent medical conditions in the second and in the third stations, and the assessment of the clinical thinking in the fourth station. For this purposes, precise instructions and multi-component check-lists have been elaborated, which would exclude subjective approaches and ensure credibility. The graduate and residents of the program were actively involved in the exam as trainers-instructors.

**Summary of Results:** Students and instructors surveys were conducted at the next stage. The discussion was held on the importance of assessing clinical practical skills and oral assessment, which will improve the quality of obtaining course learning outcomes.

**Discussion and Conclusions:** The implementation and widely use of OSCE at the ATSU Medical Faculty, will improve the quality of higher medical education and achievements of the Learning Outcomes.

**Take-home Messages:** Surveys revealed advantages and disadvantages from the first experience of OSCE: time management flaws, lack of number of trial stations, insufficient preparation of staff, the need to take the experience from European medical schools! Besides, the advantages of using the OSCE method were revealed: - measuring the correct use of the knowledge acquired by the student at the clinical situation. - assessing the student clinical skills objectively and accurately.

## #3LL Posters - Assessment: OSCE

### 3LL03 (2505)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Utilizing Dynamic Assessment to Adjust OSCE Training Program for enhancing Individual Learning

#### AUTHOR(S):

- Chin-Wei Chang, Center for Education in Medical Simulation, Taipei Medical University, Taiwan (Presenter)
- Wen-Cheng Huang, Center for Education in Medical Simulation, Taipei Medical University, Taiwan
- Chao-Chun Kuo, Center for Education in Medical Simulation, Taipei Medical University, Taiwan
- Chin-Wang Hsu, Emergency Department, Wan-Fang Hospital, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** The OSCE test is one of the national examinations offered to nurses in Taiwan as registered Nurse Practitioners. Former training methods which based on traditional classroom training could not achieve satisfactory results. The most major reason is that students have different levels of knowledge and background, which leads to a gap in learning outcomes. Through the dynamic learning assessment to provide different levels of learning needs, we can redesign the curriculum to achieve the purpose of training.

**Summary of Work:** We provide a Dynamic Assessment in a OSCE workshop to adjust the learning strategy based on the students learning outcomes. Prior to class, structured telephone interviews can assess individual learners mastery of OSCE content and thereby become the basis for grouping. Within the course, we provide an OSCE test and regroup the students two to three times through scores to give different learning strategies. At the end of the study, we again provide individual tutoring based on the final simulation test.

**Summary of Results:** There was a very high evaluation of the workshop. All participants have almost significant growth in every OSCE exam content structure except for differential diagnosis. The pass rate of the students in the course is higher than National average.

**Discussion and Conclusions:** The results of the differential diagnosis were ordinary, the possible reasons are the difficulty of the exam or the ability to integrate information. Case discussions should be increased to enhance differential diagnosis. In order to use dynamic learning to assess and adjust individual strategies, the course must be split into multiple days or blocks. It may increase manpower and cost expenditures, but it may be good investment.

**Take-home Messages:** We normally have examination after the end of the study. However, for students of different backgrounds, we try to change the assessment training to course activities or implanting before courts. Through dynamic learning assessment, we can understand the current situation of students learning and adjustment strategies, thus effectively improve learning efficiency.

## #3LL Posters - Assessment: OSCE

### 3LL04 (419)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Developing and understanding the use of video in objective structured clinical examinations

#### AUTHOR(S):

- Alice Moul, Keele University, UK (Presenter)
- Peter Yeates, Keele University, UK
- Jacquelyn Walsh-house, Keele University, UK
- Lorraine Clews, Keele University, UK
- Richard Fuller, Keele University, UK
- Robert McKinley, Keele University, UK

#### ABSTRACT

**Background:** Video is used in several roles to enhance assessment in Medical Education: to increase standardisation, improve feedback and to train and benchmark examiners. Whilst helpfully targeting assessor variability, these uses presume that assessors interpret video performances the same way they interpret live performances. Video could influence judgements in several ways: by reducing availability of sensory information, reducing volitional control or decreasing interpersonal interaction. Despite the potential for these influences to affect judgements, little research has compared how observing by video (versus live performances) influences examiners' judgements. Such differences are critical to the valid interpretation of video-based assessment scores. We therefore chose to study implications of examining by video whilst optimising methods for its use.

**Summary of Work:** This study blended action research and constructivist grounded theory. Thirty participants were recruited across 10 iterations of planning, acting, observing and reflecting upon simulated OSCE stations which were filmed using different camera modalities. In each iteration examiners judged both live and videoed performances. After scoring each performance (live or video), think aloud methods were used to explore examiners' perceptions of the salient features in the performance. Semi-structured interviews understood participants' perceptions of acceptability and information adequacy of different filming methods. Data was analysed using Grounded Theory.

**Summary of Results:** Examiners felt distanced from performances whilst judging videos. Tensions arose between a/.Camera obtrusiveness and adequacy of video views; and b/.Students' acceptance of cameras and the educational purpose of filming. These tensions were mediated by the interaction of OSCE station content with camera type and position, and sound and lighting quality. Examiners comfortably managed limitations of visual information and reduced volitional control through various strategies: focusing on salient behaviours, using inference, "thin-slice" judgements and proxy information, to usually reach equivalent judgements.

**Discussion and Conclusions:** Whilst video incompletely replicates assessors' live experiences, carefully employed video-based judgements achieve an "imperfect sufficiency" capable of achieving their purpose of enhancing standardisation or feedback in assessment. Assessors' information management suggests further implications for understanding assessor cognition.

**Take-home Messages:** Video can benefit assessment but only if institutions carefully balance the tensions between information adequacy, acceptability and purpose.



## #3LL Posters - Assessment: OSCE

### 3LL05 (3281)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Designing OSCE-stations on organ donation to test challenging ethical and medical communication skills - A student initiative of the IMPPuls-Group

#### AUTHOR(S):

- **Jeremy Schmidt, German Medical Students' Association (bvmd e.V.), Germany (Presenter)**
- Aurica Ritter, German Medical Students Association (bvmd e.V.), Germany
- Richard Lux, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
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#### ABSTRACT

**Background:** Due to its high medical, ethical and judicial complexity in various cross-disciplines settings, organ donation represents a prominent example of the need for case-based training of communication skills within medical education. "Education about organ donation", a project of the German medical students' association (bvmd), aims at neutrally educating about the topic. All future physicians shall be aware of this and gain communication skills to give patients and relatives the best possible support and advice. Is it possible by students to develop OSCE-stations dealing with such challenging ethical subjects?

**Summary of Work:** Therefore, the bvmd cooperates with the German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy (IMPP) to develop stations of Objective structured clinical examination (OSCE). Three stations are developed, with the following topics: - General Practitioner: Consultation about the question of becoming an organ donor - Neurologist: Consultation with relatives about a brain-dead patient and the possibility of an organ donation - Nephrologist: Consultation with patient and close relative about a potential living donor donation Learning goals for students being assessed were formulated and the bvmd-taskforce was trained in developing OSCE-Stations. All stations are tested concerning feasibility, and networking to the nationwide implementation has started. The pilot period will begin at the end of 2019. It should be discussed that there might be problems due to students having different levels of knowledge and competence.

**Summary of Results:** In view of these OSCE-stations medical students train both their knowledge about organ donation and communication skills, which induce an opinion formation in patient or relative.

**Discussion and Conclusions:** With this cooperation within the IMPPULS-Group, involved students are enabled to transform their engagement of strengthening the topic of communication on organ donation in medical curricula into developing specific assessment settings. The three topics require lots of general knowledge on organ donation, while focusing not on specific medical detail knowledge, but on the patient needs for an empathic and shared-decision communication.

**Take-home Messages:** We believe an inclusion of OSCE stations and their required skillset into medical curricula will lead to a substantial improvement in knowledge about organ donation and the handling of complex doctor-patient communication settings.

## #3LL Posters - Assessment: OSCE

### 3LL06 (1962)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Mobile Scoring Systems with Extended Online Feedback Augmented Teaching and Learning in Formative OSCE

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#### ABSTRACT

**Background:** Objective structured clinical examinations (OSCEs) are common for formative teaching and summative assessment. However, item scores are easily lost when using paper-based formats.

Furthermore, common mistakes are difficult to debrief across students immediately post-exam. Finally, students report being left with unanswered questions after feedback, despite it being provided swiftly.

**Summary of Work:** To avoid missing scoring items, we developed an App to automatically calculate scores enabling real-time statistical calculations, plotting and debriefing. An interactive forum extended feedback online; for participants to ask post-exam questions, and raters to provide additional feedback. We analyzed raters' (experienced, qualified, pharmacy teachers) perceptions and students feedback.

**Summary of Results:** Forty pharmacy postgraduate students and twenty-one raters participated during 2016-2017. The G coefficient was 0.82. It showed significant improvement for raters using mobile scoring systems and extended online interactive feedback forum. Learners' self-assessment improved significantly before and after the program. "Feel free to ask questions online" comprised students' most important factor.

**Discussion and Conclusions:** Our systems may help raters score students, providing automatic calculation, avoiding missing scores and promote debrief in groups. The interactive online forum may provide and extend the interactive learning and teaching between learners and raters. Furthermore, it may decrease the manpower of calculating scores, provide extended online feedback and is environmentally friendly.

**Take-home Messages:** We demonstrated that integrated high technology that can help and augment the learning and teaching for health professional students. It may overcome some problems in traditional formative OSCE to help teachers and students especially they come from different sites at a distance.

## #3LL Posters - Assessment: OSCE

### 3LL07 (729)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Music therapy may not help Thai medical students to reduce their stress before the formative-OSCE test

#### AUTHOR(S):

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- Vich Thampanya, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand

#### ABSTRACT

**Background:** There is already some research regarding the effects of listening to classical music before an taking an exam. Previous study found that 70% of students who listened to music and received encouragement from instructors before an exam performed better than those who did not. Therefore; we applied this to medical students in Thailand to see if the results were similar or different.

**Summary of Work:** Forty-two fourth and fifth year students in the August 2016 to January 2017 period were enrolled in the study. The parameters measured were vital signs and ST-5. GPA and other data were reviewed. A non-music listening group and a music listening group were created. Measurements were taken at 2 different time intervals.

**Summary of Results:** In total 14 males and 28 females were included. The group included 10 and 32 of 4th and 5th year students respectively. There were no significant differences in age, gender, or GPA in the groups. Recordings of PR, BP, RR, and OSCE scores showed no significant statistical difference. Stress scores were not lower in the music listening group prior to taking examinations. Stress scores of those groups listening to music and those non-listening to music prior to entering the examination were 5.76 (+/-)2.46, and 4.14 (+/-) 2.43 respectively. (p=0.038)

**Discussion and Conclusions:** Listening to classical music before entering the examination room is not effective for Thai medical students. They strongly agreed that music can reduce stress (92.3%), but do not favor the rhythms as in this research. (50%). The difference in the matter of encouragement may influence the result of this study. Just only listening to music before entering the formative-OSCE test during a stressful situation is not suggested to reduce stress in Thai medical students.

**Take-home Messages:** For Thai medical students entering the test, there should be nothing to disturb them in order to better reduce their stress.

## #3LL Posters - Assessment: OSCE

### 3LL08 (1347)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Electronic Marking Application for OSCE Examination

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- Yan Jin, The Chinese University of Hong Kong, Hong Kong
- Alex L. K. Yung, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** Objective Structured Clinical Examination (OSCE) is widely used for testing clinical skill performance and competence in medical education. The scoring procedures are standardized for examiners and the score is usually marked on paper. This requires tedious administrative manual work totally and sort out marks and to set pass or fail standards.

**Summary of Work:** An iPad application was developed by Faculty of Medicine, The Chinese University of Hong Kong (CUHK) in 2013 and was used as a marking tool to facilitate examiners in School of Public Health and Primary Care for department module examination. The marking scheme of OSCE within the application was preinstalled onto iPads prior to the examination. Examiners selected the scores from the checklist and typed in any feedback in a comment section. All the examination results were stored in iPads and sent to administrator via email after the examination. Tabulation of results was immediately possible.

**Summary of Results:** This paperless marking method has been used by School of Public Health and Primary Care department (SPHPC) in the past five years since 2013. Not only has it reduced the workload of administrators dramatically, but has avoided marking errors when compared with manual marking, prior to 2013. From 2013 to 2018, 5 to 10 stations were used in Year 4 OSCE examinations every module by SPHPC. 40 to 55 students participated in OSCE every module and there are four modules every year. The electronic marking application by iPad has been used in these OSCE examinations.

**Discussion and Conclusions:** Electronic forms of the marking scheme for any OSCE can be easily created and stored via this iPad application. This dramatically decreases administrative work and reduces human errors, as the final scores are calculated automatically. The user-friendly digital interface and simple operation flow have been well received by our examiners.

**Take-home Messages:** With the ever-increasing number of students (n=200+) in the Faculty of Medicine, CUHK, this OSCE marking scheme has unburdened administrative staff and eliminated inaccuracies in the scoring of High Stakes Exams. However the IT backbone needs to be robust and scalable, perhaps requiring enterprise based on-line database services to make such an application scalable for use across the faculty.

## #3LL Posters - Assessment: OSCE

### 3LL09 (738)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Factors affecting the OSCE effectiveness in training new nurses on cardiopulmonary resuscitation (CPR)

#### AUTHOR(S):

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#### ABSTRACT

**Background:** To explore factors related to the effectiveness of new nurses in objective structured clinical examination (OSCE) training on unintended cardiopulmonary resuscitation (CPR).

**Summary of Work:** Research design: A pre- and post- study was conducted at a medical center on a single group of new nursing staffs (n=66). The study was conducted over a period from three months to one year using Unexpected Cardiopulmonary Resuscitation OSCE, based on structural questions and answers collected from individual nurses. In total, three times self-evaluation were performed: before training, right after training, and 6 months after training. Evaluation tools included the unintended CPR professional knowledge scale, and undesired CPR confidence index. We also analyzed the following individual data in relation to their learning performances: gender, age, education level, working years, CPR experience, certificate of advanced cardiac life support (ACLS) and the number of clinical CPR performed.

**Summary of Results:** Research results: The population average score of the unintended CPR professional knowledge scale was 73.8 points before training, 74.8 points right after training, and 74 points after 6-months training. The population average score of the unanticipated CPR index was 28.5 points before training, 29.8 points right after training, and 30 points after 6-months training. However, in association with unintended CPR professional knowledge, statistically significant differences were found between those with and those without ACLS licenses: either before ( $p=.005$ ) or right after training ( $p=.045$ ). In association with the unanticipated CPR confidence index, statistically significant differences were found between those with and those without ACLS certificates ( $p=.025$ ). The confidence index of the unintended CPR gradually increased with the duration of training, and finally reaching significant improvement levels ( $p=.010$ ). Significant differences were also found between gender ( $p=.008$ ), specialist education ( $p=.021$ ), and ACLS license ( $p=.021$ ).

**Discussion and Conclusions:** A number of factors of individual nursing staffs were found to associate with their differences in performance on unintended CPR learned through OSCE. Our findings could help medical units improve CPR training for new nurses.



## #3LL Posters - Assessment: OSCE

### 3LL10 (995)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Using the objective structured clinical examination as an assessment strategy for Novice Nursing Practitioners

#### AUTHOR(S):

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#### ABSTRACT

**Background:** The Objective Structured Clinical Exam (OSCE) is a valid method of assessing competence in medical and nursing specialties. We sought to develop an OSCE to evaluate novice nursing practitioners' (NNPs') clinical competency, work stress, professional confidence, and satisfaction.

**Summary of Work:** An experimental study (pre-post). Fifty-five NNPs received the OSCE three-months following graduation, comprising four stations: history taking, physical examination, problem-directed management, interpersonal communication, required procedure techniques. Examiners completed an assessment checklist, participants completed a pre-post questionnaire (modified from a Nursing Competency Questionnaire, a Stress scale, and Satisfaction with Learning scale).

**Summary of Results:** Pass rate=74.5%: significantly higher among nurses from medical-surgical wards (85.7%) and intensive care unit-emergency departments (77.8%). Lowest scores were reached on the fever patients' station. OSCE performance was associated with educational attainment, work unit, but not gender. Significant increases in: competency, confidence, clinical practice satisfaction. Significant decrease observed in work-stress

**Discussion and Conclusions:** NNPs improved across a range of key domains following the OSCE intervention. However, their inability to perform well in history taking and symptom assessment may be attributed to them having few opportunities to encounter febrile patients during early working experience, especially for NNPs from the baby room, and operation rooms. We found that the OSCE process had a positive educational influence, at providing a meaningful and accurate assessment of the competence of NNPs. Although the implementation of an OSCE remains costly, the benefits for NNPs, educators, and administrators regarding increased competence and workforce stability following OSCE training outweigh its costs.

**Take-home Messages:** The OSCE offers an objective and standard tool to assess multifaceted clinical ability of NNPs in a close-to-clinic situation.

## #3LL Posters - Assessment: OSCE

### 3LL11 (2368)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Development and Testing of the Objective Structured Clinical Examination Grief Counseling Training Program for Nursing Staff

#### AUTHOR(S):

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- Chi-Kang Lin, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** Following a disaster, manpower deployment, immediate and effective resource investment, and grief counseling are the important tasks of disaster nursing. However, the crisis management of nursing staff and the grief counseling after a disaster occurred are still an important and challenging issue. The aims of this study were to develop and test an objective structured clinical examination (OSCE) for grief counseling in disaster nursing. We also wanted to understand the satisfaction for grief counseling as well as to explore the predictors of outcome in the OSCE.

**Summary of Work:** The OSCE content of grief counseling was to examine the content validity, and then to discuss with 11 experts using Angoff scoring. Finally, we set out the criteria for passing the OSCE. Military nurses were recruited to the OSCE. Data were collected including demographics, satisfaction, and the OSCE score of grief counseling. Teacher critique the OSCE occurred following testing.

**Summary of Results:** The content validity index of this study was 0.9 and the average score in the third Angoff scoring was 15. A total of 162 nursing staffs received OSCE test for grief counseling. Among these nursing staffs, 73(45.1%) passed and 89(54.9%) failed the test. Logistic regression analysis was used to adjust the confounding factors. The results showed that age ( $p = 0.031$ ), perceived OSCE performance ( $p < 0.05$ ) was the most important factors in predicting the pass of OSCE test.

**Discussion and Conclusions:** In this study, we developed and test the OSCE of grief counseling among nursing staffs. In addition to understanding the ability of nursing staffs in grief counseling, this OSCE test also helped to improve the practical skills of grief counseling.

**Take-home Messages:** This OSCE of grief counseling can be applied in disaster nursing as well as in clinical patients care. Therefore, it is worth developing and promoting in disaster nursing and patient care.

## #3LL Posters - Assessment: OSCE

### 3LL12 (3291)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

## OSCE as final evaluation of performances in residents of Orthopedics and Traumatology

### AUTHOR(S):

- **Natasha Kunakov, Universidad de Chile, Facultad de Medicina, Chile (Presenter)**
- Juan Manuel Salas, Universidad de Chile, Facultad de Medicina, Chile

### ABSTRACT

**Background:** In 2007, Orthopedics and Traumatology Department, Faculty of Medicine of the Universidad de Chile, decided to conduct an Objective Structured Clinical Examination (OSCE) as a final practical examination of their residence. Good examinations have several characteristics, including validity, reliable scores, educational impact, practicability, acceptability and good cost-benefit ratio. OSCE has the characteristics of a good examination. This examination has come to be considered the gold standard for the assessment of a student's clinical competence and to certify competencies. In Chile exists OSCE experience in evaluating undergraduate and medical degree certification, but there are limited experiences in postgraduate training programs.

**Summary of Work:** Each year the department must evaluate 20 - 24 residents. A OSCE blueprint is defined with 10 stations. Teachers participate in a B-learning course of Simulation and OSCE, the final product is the station for the examination. The station creator trains the simulated patients (when necessary), leads the pilot and acts as an examiner. The stations are evaluated with a checklist. The standard setting is defined at 70% . Residents answer a satisfaction survey when finished. A report is created from each resident, with the scores obtained in each station.

### Summary of Results:

Year:	2013	2014	2015	2016	2017	2018
Average:	7,5	8,4	8,2	8,6	8,2	8,5

**Discussion and Conclusions:** The clinical teachers were satisfied with the performance shown by the students, which coincides with their subjective evaluation during the training. The clinical teachers were able to recognize problems in the students training plan and it had been corrected year after year. This program is multi-center, OSCE allowed to show problems in the programs of each center and correct towards a single training program. The standard setting that was defined is being surpassed every year by residents. The survey answered by the residents at the end of the OSCE revealed that they felt satisfied with the exam, believed that they had been well evaluated and that the clinical problems presented at the stations were perceived as real and frequent in the practice of traumatology.

**Take-home Messages:** OSCE is a clinical examination that provides information about the performance of individual residents. But, most importantly, OSCE provides valuable information about the quality of postgraduate training programs.

## #3LL Posters - Assessment: OSCE

### 3LL13 (1662)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### On-site simulation improves the quality of high-stakes OSCE

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Objective structured clinical examination (OSCE) is widely used to assess clinical competencies during medical studies. In Brazil, high-stake OSCE is also used to select the best candidates for medical residency. Examiner training for OSCE is still challenging.

**Summary of Work:** A six-station OSCE with 11 simultaneous rooms (replica) for each station and 92 examiners selects residents, in a program with 850 applicants in the second phase exam. In 2017, examiners and SPs were trained based on oral explanations showing the checklist. In 2018, we developed three on-site simulations for each station before the exam and everybody (SPs and examiners) had the opportunity to see and discuss doubts related to the performance and checklist. Examiners perception (52 examiners answered a questionnaire) and inter-examiner reliability were assessed with interclass correlation coefficient (ICC).

**Summary of Results:** Compared to 2017, the majority of examiners said they used to have difficulty to interpret checklist tasks and that there was not a good inter-examiner calibration (54.95 and 70.6%, respectively). In 2018, most of them considered that simulations had good quality and improved inter-examiner calibration (88.2 and 86.4%, respectively). Additionally, ICC improved after training and simulations.

**Discussion and Conclusions:** On-site simulations just before a high-stake OSCE improved inter-examiner variability and, consequently, exam quality. Moreover, the training was well acceptable for examiners and improved their perception related to OSCE quality. Additionally, they felt more comfortable being as examiners. Therefore, on-site training with simulations for OSCE contributes to the exam quality and participant perception.

**Take-home Messages:** The implementation of on-site simulations for OSCE led to better inter-examiner variability, participant perception and resulted in more reliable exams. Moreover, the training did not have a negative impact on the OSCE organization.

## #3LL Posters - Assessment: OSCE

### 3LL14 (1258)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Can the Standardized-Patient Substitute the Faculty-Physician in OSCE

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Currently the objective structured clinical examination (OSCE) was directed observed by faculty-physician (FP). Standardized-patient (SP) also played an important role in this field. The aim of this study was to compare FP and SP assessments of medical students in OSCE.

**Summary of Work:** To evaluate the assessment in OSCE of SP compare to FP scoring to medical students. The OSCE designed to assess in professionalism, communication skill, history taking and physical examination. The OSCE consists of 5 minute station. The fourth-year medical students were evaluated by both SP and FP.

**Summary of Results:** The 22 fourth-year medical students were evaluated the OSCE by both SP and FP. The OSCE mean score assessment were 76.59+9.39 by SP and 54.68+9.53 by FP. There was a significant difference of scoring between SP and FP with P value <0.001. The interrater reliability between SP and FP was 4.55%, Kappa 0.025. Mean scores of professionalism domain were 92.27+5.28 by SP and 91.25+5.12 by FP. There was no significant difference of scoring between SP and FP with P value=0.07. The interrater reliability between SP and FP was 46.36%, Kappa 0.443.

**Discussion and Conclusions:** The assessment of medical student OSCE by SP could not substitute FP. But there was similar agreement in professionalism domain. Well trained SP should be warranted.

**Take-home Messages:** SP was able to assess medical student professionalism equally as well as FP.



## #3LL Posters - Assessment: OSCE

### 3LL15 (2123)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Does the non-native English accent influence the examiners' markings in an Objective Structured Clinical Examination (OSCE)?

#### AUTHOR(S):

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- Nimesh Patel, Queen Mary University of London, UK

#### ABSTRACT

**Background:** OSCE assessment is an important aspect in medical education. There are anecdotal evidences that students with non-native English accents and speak English as second language (ESL) perform less well in the OSCE due to subconscious bias. Historically, the issue of accent related bias has its routes on ethnocentrism, which stated one's own group is perceived as superior to the external group. Tajfel discussed prototypical categorization is activated when an individual is perceived as the member of a typical group. It is possible that the degree of in/out-group identity creates stereotyping. Stereotypes were activated when making judgements, leading to a bias in how information is accessed when marking medical students in an OSCE. Other research explored the disparity in OSCE marks according to the difference in ethnicity. Studies demonstrated students with ESL performed less well in OSCEs. However, score differences due to the presence of accents have not been investigated. This study aims to fill this gap in the literature by evaluating the differences in the examiners' marking given to a student with a non-native English accent and a student with a native English accent.

**Summary of Work:** OSCE examiners in the UK were recruited. Participants were randomly assigned to 2 groups and watched 2 pre-recorded online videos of simulated students with/without non-native English accents performing with varied degree of proficiencies. They marked the performances and the differences in the given marks due to the presence of non-native English accents was statistically analysed.

**Summary of Results:** The characteristics of participants such as gender, ethnicity and years of training are summarised. The result discusses the differences in the collected scores due to the presence of accents.

**Discussion and Conclusions:** The discussion describes the validity and reliability of the study including the potential bias in the study. The participants' characteristics are investigated to identify links between the characteristics and the markings. Possible causes of the results are discussed. Conclusion presents possible ways to improve the current OSCE assessor trainings.

**Take-home Messages:** The possibility of judgement bias in examiners due to non-native English accents presents an issue in ensuring the quality and fairness of OSCE as an assessment.

## #3LL Posters - Assessment: OSCE

### 3LL16 (3483)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Assessing Stress and Resilience of Veterinary Medical Students undergoing the Objective Structured Clinical Examination (OSCE)

#### AUTHOR(S):

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- Elpida Artemiou, Ross University School of Veterinary Medicine, St Kitts & Nevis
- Darlene Donszelmann, University of Calgary Veterinary Medicine, Canada
- Cindy Adams, University of Calgary Veterinary Medicine, Canada

#### ABSTRACT

**Background:** Veterinary education is an intense and demanding program wherein students are expected to learn a high-volume of often conceptually challenging material and are regularly assessed on their progress. Likewise, veterinary students are prone to feeling stressed and overwhelmed. At high levels of stress, people have difficulty forming, consolidating, and retrieving memories. In our veterinary students, this can greatly interfere with their ability to learn and perform on assessment, as well as their ability to make clinical decisions. This study proposes to look at the veterinary student experience of stress and their ability to perform on assessments through the lens of the objective structured clinical examination (OSCE).

**Summary of Work:** Third year student volunteers from the University of Calgary Veterinary Medicine (UCVM) class of 2019 participated in a semi-structured interview that explored the student-experience surrounding stress and OSCEs, as well as investigated coping mechanisms, and the student perception and development of resilience. Interviews have been transcribed and analyzed using thematic analysis.

**Summary of Results:** Thematic analysis identified two primary sources of stress revolving around institutional culture and a fear of failure. Students who demonstrated resilience tended to have previous experience with stress and failure, a strong sense of self-worth, and have an appreciation of the enormity of life experiences including crisis and disasters.

**Discussion and Conclusions:** Many of the veterinary students entering graduate programs have not previously experienced the intensity of a rigorous academic program, nor developed the art of resilience and stress management, and are susceptible to fear of failure, as well as emotional and medical problems. Further attention, must be given in student selection, as well as development of wellness programs.

**Take-home Messages:** No student can be untouched by the challenges they encounter in academia. We must explore creating a curriculum that is attentive to both psychological as well as academic development.

## #3LL Posters - Assessment: OSCE

### 3LL17 (2120)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Station-Based Blended Learning for Undergraduate Medical Students in the Obstetrics and Neonatology Modules

#### AUTHOR(S):

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- Laura Malakauskienė, Lithuanian University of Health Sciences, Lithuania
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#### ABSTRACT

**Background:** Due to changes and development of technologies, the traditional teaching techniques based mainly on a teacher explaining a topic and students taking notes become ineffective and not motivating for present-day students. The aim of the study was to evaluate the influence of the station-based blended learning on OSCE results.

**Summary of Work:** Retrospectively we analyzed OSCE results among medical students who underwent training with the use of traditional learning methods (lectures and seminars) (45.5% (n=106)) and the station-based blended learning technique (54.5% (n=127)). The study included 233 randomly selected undergraduate fifth-year students of the Lithuanian University of Health Sciences (LSMU) Medical Academy who during 2014 - 2018 were studying the Obstetrics and Gynecology modules.

**Summary of Results:** In the traditional learning group, the final median of the OSCE total score of the neonatology module was 9 points (the minimal score being 2, and the maximal score - 10 points), and that of obstetrics - 8.3 points (the minimal score was 3.8 points, and the maximal score - 10 points). In the group where station-based blended learning was applied, the medians of the students' OSCE total score in obstetrics and neonatology were statistically significantly higher: in neonatology, 10 points (the minimal score was 7 points, and the maximal score - 10 points), and in obstetrics, 9.6 points (the minimal score was 4.2 points, and the maximal score - 10 points),  $p < 0.001$ . The results of the logistic regression analysis suggest that in undergraduate medical students, the application of station-based blended learning may increase the frequency of the final results reaching 9.0 points or more by twofold (OR 2.41, 95% CI 1.057-5.498;  $p = 0.03$ ), compared to the use of traditional learning techniques.

**Discussion and Conclusions:** Station-based blended learning is still rarely used when teaching of medical students, and thus more studies are required to evaluate the influence of this technique on the students' final results and persistence of skills, as well as on the knowledge of the subject. The application of blended station-based learning significantly increased the OSCE evaluation scores.

**Take-home Messages:** Station-based blended learning used for undergraduate medical students can be a standardized motivating tool for achieving better learning results.

## #3LL Posters - Assessment: OSCE

### 3LL18 (800)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Pharmacists and nurses communication: a two-way verification of the training effects of a clinical pharmacy course on PGY pharmacists through objective structured clinical examination

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#### ABSTRACT

**Background:** Taiwan's pharmacy education focused on basic pharmacy training. Because countries worldwide have already adopted clinical pharmacy education, Taiwan has also begun to revise the professional training of pharmacists and joined the course of clinical pharmacy. In recent years, Taiwan's clinical pharmacy education has been based on the objective structured clinical examination (OSCE) to assess the postgraduate year (PGY) expertise and interdisciplinary clinical care capabilities. To verify the learning effectiveness of the PGY pharmacist's clinical pharmacy course by summarizing the OSCE.

**Summary of Work:** Forty-eight PGY pharmacists from seven medical institutions in Yilan, Hualien, and Taitung were selected as subjects. Before the end of PGY training, they underwent the OSCE, and the results of the two-way communication plan between the pharmacists and the nurse examiners were collected. The lesson plan (pharmacists and nurses communicate drug compatibility issues) was reviewed and corrected by experts before the test.

**Summary of Results:** No significant difference in the PGY pharmacists' scores (75.0 vs. 72.2,  $P = 0.55$ ) was observed between those who attended the clinical pharmacy course and those who did not, but the PGY pharmacists who did attend the course scored higher than those who did not.

**Discussion and Conclusions:** The OSCE in cross-disciplinary teams can help assess the professional knowledge of PGY pharmacists after completing the clinical pharmacy course, as well as the attitude and communication skills of cross-disciplinary team members. Moreover, the PGY pharmacists who participated in the clinical pharmacy course has improved communication skills compared with those who did not. Although the statistics did not demonstrate a significant difference, they revealed that the PGY pharmacists who attended the course exhibited an enhanced ability to maintain clinical care across disciplines. In sum, cross-disciplinary teamwork OSCE can be used as a PGY pharmacist training model and to confirm the learning outcomes. This assessment can also be used to improve the interdisciplinary team's clinical care ability of PGY pharmacists by integrating a clinical pharmacy course into the PGY training content.

**Take-home Messages:** The hospital still needs to design a more effective multisite cross-disciplinary teamwork OSCE to assess the teamwork ability of PGY pharmacists after receiving the clinical pharmacy course.

## #3LL Posters - Assessment: OSCE

### 3LL19 (1406)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Mock national licensing examination can help identify clinical competencies needed to be improved in medical students trained domestically and overseas

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#### ABSTRACT

**Background:** All medical graduates both trained domestically and overseas, who are seeking to practice in Thailand healthcare system are subjected to take the Thai National Licensing Examination (NLE). To prepare its students for the NLE examination, Nakornping Medical Education Center organized a mock NLE OSCE examination for its final year medical students and overseas medical graduates. This study was aimed to compare clinical competencies as measured in the mock OSCE examination between students trained in Thailand's medical school and those trained overseas.

**Summary of Work:** Mock NLE consisting of 20 OSCE stations was held to assess a range of key clinical competencies, such as history taking, physical examination, communication, procedural, and interpretation skills. In this cross-sectional analytical study, we compared the total OSCE score in the mock examination and the number of OSCE stations successfully passed between 20 6th-year medical students of Nakornping Medical Education Center and 8 overseas medical graduates, mostly from China, who spent their internship year in the same training center using Mann-Whitney U test. We compared the proportion of students from the two training schemes who successfully passed the OSCE examination, considering passing a minimum of 12 OSCE stations as successfully passing the mock examination.

**Summary of Results:** Medical students trained domestically scored higher OSCE marks than students trained overseas (median score of 1254.5 and 840.5 respectively,  $p < 0.05$ ). The median number of OSCE stations students successfully passed was higher in medical students trained domestically than those trained overseas (median 11.5 and 4.5 stations,  $p < 0.05$ ). 50% of the students trained domestically passed the mock OSCE examination, while none of the students trained overseas passed it. The students from both schemes scored low in communication skill. Those trained overseas had the lowest scores in history taking and interpretation skills.

**Discussion and Conclusions:** Clinical competencies in students trained domestically and overseas clearly differed. History taking, interpretation and communication skills were key areas for improvement in medical students.

**Take-home Messages:** Mock OSCE examination can be used as a formative assessment and is likely to help identify areas for improvement in medical students' clinical competencies.



## #3LL Posters - Assessment: OSCE

### 3LL20 (860)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A novel OSCE case to assess medical students' responses to a request for an unnecessary test: A mixed methods analysis of communication challenges

#### AUTHOR(S):

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- Sandra Oza, Albert Einstein College of Medicine, USA
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#### ABSTRACT

**Background:** Rising health care costs and risks of interventions have prompted efforts to decrease utilization of unnecessary interventions. The Choosing Wisely campaign encourages a national dialogue on avoiding unnecessary medical tests and treatments and advocates key communication skills for promoting patient understanding of recommendations. To develop effective curricula and assessments, educators must appreciate the barriers to having these conversations. We developed an OSCE case to assess medical students' communication skills and challenges during an encounter with a patient requesting an unnecessary test.

**Summary of Work:** Students enrolled at two US medical schools participated in this OSCE after their 3rd-year clerkships. An SP presents with low back pain requesting an MRI (clinically not indicated). SPs reported whether students referenced clinical practice guidelines or discussed risks of unnecessary testing. Students completed a post-encounter note about perceived challenges in responding to the patient's request. Borderline regression method was used to determine reliability of case scoring.

**Summary of Results:** 251 students completed the OSCE case. 76% reported not ordering an MRI, 44% referenced clinical practice guidelines, 34% discussed risks of unnecessary testing. The decision not to order MRI corresponded with referencing clinical practice guidelines ( $p < 0.001$ ,  $r = 0.42$ ) and discussing risks of unnecessary testing ( $p < 0.001$ ,  $r = 0.31$ ). All students provided responses to the prompt. Most commonly reported challenges included the cost of the intervention, perceived lack of time, knowledge, skills, confidence and communicating with a patient perceived to be persistent/demanding. Case scoring reliability was good ( $R^2 = 0.65$ ).

**Discussion and Conclusions:** In this OSCE case assessing competency in communicating with patients about unnecessary medical testing, most students did not order an MRI. Patient education was significantly associated with avoiding unnecessary testing. While students reported awareness of the need to consider cost and indications for testing, students perceived many challenges centered on the student-patient interaction. Those challenges resulting from a student's lack of knowledge, skills or confidence comprise a needs assessment for educators developing curricula to educate learners to communicate about value with patients.

**Take-home Messages:** Qualitative research done on OSCE clinical encounters can provide an in-depth view of our learners experience and thereby inform our teaching.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM01 (1618)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Bringing Oncology to the FOAM Party

#### AUTHOR(S):

- Charles Dearman, Royal Marsden Hospital, UK (Presenter)
- Katherine Townsend, Kingston Hospital NHS Trust, UK
- Mike Okorie, Brighton and Sussex Medical School, UK
- Richard Simcock, Brighton and Sussex University Hospital NHS Trust, UK

#### ABSTRACT

**Background:** The global shortage of oncologists is predicted to worsen. According to the Royal College of Radiology, the current 15% shortfall in UK clinical oncologists is expected to worsen to 22% by 2022. When considering career choices, junior doctors may not consider oncology as they receive little exposure to it in undergraduate curricula and the field's specialised services and therapies have never been explained. The acute specialties of emergency, intensive and anaesthetic medicine have harnessed the internet to cheaply and effectively educate and inspire prospective trainees by using the concept of FOAM: 'Free Open Access Meducation'. Our project, OncoPods.com, aims to emulate this, and specifically educate, advise and inspire future oncology trainees.

**Summary of Work:** The absence of online resources for prospective oncology trainees was identified using popular online search engines. In response we built OncoPods, formed on FOAM principles as described by authors of Life In The Fast Lane website, created using Weebly.com software and adapted with basic HTML coding. Google Forms software was used to produce quizzes, and content from YouTube and Twitter was embedded into the website. The resource was publicised using Twitter, local presentations and communication in international journals. Impact was assessed by monitoring website traffic and qualitatively assessing social media response.

**Summary of Results:** The online FOAM platform can be visited at [www.oncopods.com](http://www.oncopods.com). Since its creation in June 2018 it has received 2570 unique visitors with 5329 page views. Traffic is on an upward trajectory with 30-day average over the last 3 months of 388 visitors and a 775 page views. This has further been boosted following a recent feature in the international journal, Clinical Oncology. The platform has been well received on social media.

**Discussion and Conclusions:** Internet traffic to the website has been higher than anticipated, demonstrating unmet demand for FOAM resources in oncology. Further growth is planned with trainees from The Christie NHS Trust and Royal Marsden NHS Trust to develop resources for Clinical Oncology Examinations but further collaboration is sought.

**Take-home Messages:** 1. FOAM is not yet used in oncology 2. Oncology needs to engage the millennial generation of trainees 3. OncoPods brings FOAM to oncology.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM02 (899)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring the risks of disruption of specialist physician training

#### AUTHOR(S):

- Leila Niemi-Murola, University of Helsinki, Finland (Presenter)
- Asta Toivonen, University of Helsinki, Finland
- Taina Autti, University of Helsinki, Finland

#### ABSTRACT

**Background:** In Finland, we are in the process of reforming our specialist training. Newly graduated doctors will apply entry to the specialist education program instead of simple registration. We explored the data of physicians registered as residents during years 1999-2009 without receiving their specialist degree in order to find factors behind disruption of specialist education. During the study period the residents were able to register for more than one specialty.

**Summary of Work:** Demographic data of all 877 students registered in specialist training during years 1999-2009 was retrieved from the files of the University of Helsinki. They had registered for 1715 specialties. We investigated their professional status in 2018 from different official and unofficial registers. We used classification of specialties described in previous medical education research (procedure-oriented, surgical, hospital-oriented and primary care).

**Summary of Results:** Of the 877 students, 345 (39.3%) had truly disrupted their specialist training (121 male, 206 female,  $p < 0.01$ ), 49 of those were immigrants (14 %). Twenty-four percent (210/877 residents) received other specialty than their primary choice during the period. We found 249/877 (28.4%) residents who had graduated after the year 2009 (99 male, 146 female), 22 already had one specialty. No information was found of 32 residents.

**Discussion and Conclusions:** Female residents had a greater risk for delayed specialist training than male. Of the residents who had truly disrupted their specialist training, 184/354 (54 %) had chosen people-oriented specialties associated with an open personality (family medicine, geriatrics, general internal medicine). Half of the immigrants having disrupted their training had also chosen these specialties. Of those who continued their specialist training, 31.7 % had chosen people-oriented specialties.

**Take-home Messages:** Surprisingly many residents who had chosen people-oriented specialties disrupt their specialist training. The results indicate that some of them choose other specialty after temporary pause. Those who continued their training were younger than those who were classified as disrupted. The residents who had chosen procedure-oriented, surgical and non-primary care medical specialties are either more engaged with their studies or they receive more support during their specialist training.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM03 (1009)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### What makes the difference in patient satisfaction? The perspective of specialty characteristics in residency

#### AUTHOR(S):

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- San-Nan Yang, Department of Family Medicine, Department of Medical Education, E-Da Hospital, Taiwan

#### ABSTRACT

**Background:** Assessments of postgraduate medical training in clinical setting can be performed by mini-CEX, DOPS for single performance and MSF including patient satisfaction survey for routine performance. This study is to evaluate the specialty difference in patient satisfaction of residents, which may provide formative feedback during specialty training.

**Summary of Work:** Our material was extracted from the 2015-2017 work-base assessments database of medical education department of a teaching hospital in Taiwan. Modified chinese short form of SHEFFPAT was used as Patient Satisfaction Questionnaire (PSQ) including questions regarding altitude, clinical checking, listening, explanation, privacy/confidentiality, and overall satisfaction (scored 1 to 5). Inter-group comparisons were conducted by independent t test and one way ANOVA .

**Summary of Results:** 653 PSQ were collected from 45 trainees including 10 internal medicine, 19 surgical, 3 pediatric, 2 psychiatric, 5 emergency and 6 Family medicine residents. Independent t test showed female patients gave a higher PSQ score and female residents got higher patient satisfaction (Mean  $\pm$ SD=4.62  $\pm$ 0.49,  $p < 0.001$ ). One way ANOVA revealed significant intergroup difference in PSQ scores related to altitude, clinical examination, listening and share decision making, explanation, privacy/confidentiality, and overall satisfaction. Post hoc ScheffÉ analysis suggested that family medicine residents had significantly higher scores in all questions (Mean  $\pm$ SD=4.85  $\pm$ 0.36,  $F=9.73$ ,  $P < 0.001$ ); psychiatric residents got higher score in privacy and confidentiality (Mean  $\pm$ SD=4.81  $\pm$ 0.49,  $F=12.06$ ,  $p < 0.001$ ); pediatric residents got a relative lower score in question related to explanation (Mean  $\pm$ SD=4.25  $\pm$ 0.44,  $F=11.61$ ,  $p < 0.001$ ) compared to internal medicine and surgical residents.

**Discussion and Conclusions:** Our results showed female residents gained higher patient satisfaction. As to inter-specialty difference, family medicine residents got higher patient satisfaction in explanation and listening compared to internal medicine and surgical residents. And psychiatric residents obtained higher patient satisfaction in questions concerned privacy/confidentiality. The patient-centered characteristics of Family medicine provided qualified patient-doctor relationship. Psychiatric patients maybe more concerned about privacy and confidentiality. The PSQ in Pediatric patients are mostly made by families to which information was provided indirectly.

**Take-home Messages:** Our study revealed gender difference and inter-specialty difference of patient satisfaction. Residents in specialty which put more emphasis on psycho-social skills during training process got higher patient satisfaction.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM04 (2429)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Application of Blended Learning to Increase Percentage of Proper Operational Skills of Post-graduate Year (PGY) Nursing Staff when Adminstrating Home Parenteral Nutrition (HPN)

#### AUTHOR(S):

- Pei-Hsin Hsieh, Kaohsiung Medical University Chung-Ho Memorial Hospital, Taiwan (Presenter)
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#### ABSTRACT

**Background:** According to WHO statistics, there were 18.1 million new cases of cancer in 2018. Cancer has continuously been the top cause of death in Taiwan. Scholars have pointed out that malnourished patients have a lower chance of surviving cancer (Sun, Chen, Xu, Le, & He, 2014), hence the introduction of HPN. Yet according to statistics, there is only a 63% success rate for PGY students administrating HPN. Currently there isn't much emphasis on HPN training for PGY students, not to mention the inadequacy of traditional training methods towards the instruction of HPN. This article uses a hybrid learning design to increase technical skills of PGY students and as a result increase the quality of nutritional care for patients.

**Summary of Work:** Learning Analysis: Survey of Student Cognition: 90%, Percentage of Proper Operational Skills: 63% State Objective: Able to understand HPN related concepts in the first month, able to administer HPN in the second month, and able to instruct caretakers on how to administer HPN in the third month. Selected and Utilized Materials and Media: Produced media for students to review online, and produced a HPN common clinical questions pamphlet. Required Learner Participation: Answering student questions through classroom discussions with the addition of patent modules and situational simulation teaching.

**Summary of Results:** Cognition: 90% to 100%. Affection: Satisfaction 100%. Percentage of Proper Operational Skills: 63% to 100%.

**Discussion and Conclusions:** During the application of HPN, it has been noted that caretakers often have many questions. It is recommended that students actively discover the needs of caretakers, and customize individual needs according to the manual to increase the percentage of proper operational skills. This article uses a hybrid teaching method (patent modules, situational simulations, and media) to intervene in a three-month learning program for HPN administration. This not only effectively helps students correctly administer HPN, but also provides a safer caretaking environment for patients.



## #3MM Posters - Postgraduate - Speciality Training

### 3MM05 (2332)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Academic coherence of the systems of evaluation of residence programs of anesthesiology in Colombia

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#### ABSTRACT

**Background:** One characteristic that evaluation needs to be considered as a learning tool is academic coherence, which is understood as the existence of a common thread that links all the arguments or ideas that make up the curriculum. However, in practice, there is not always a correlation within these elements.

**Summary of Work:** Through a National survey conducted in Colombia, whose purpose was to explore the perception that residents, teachers, and program managers had about the evaluation systems used in training programs in anesthesiology, academic coherence was investigated. The 71% of accredited anesthesia residency programs participated in the study. A total of 58% of responses were obtained from residents and 42% are teachers. A Likert scale of 5 points was used (1: totally disagree and 5: totally agree). The sub-domains evaluated were Congruence, Prioritization, and coherence between the instruments and the learning objectives. The statistical tests used were Student's T, Mann Whitney U and Levene test.

**Summary of Results:** All the domains are present (Score 3,65 to 3,97), no significant differences were found in any of the domains of the variables in both groups. The scores of congruence and prioritization are higher in teachers, while those of coherence between the evaluation and relevance of instruments are higher in the residents. There was no correlation between the evaluation tools declared by the program managers, teachers, and residents.

**Discussion and Conclusions:** In Colombia, there is no standardization of evaluation systems, similar to the literature report. Although the study does not inquire about the explicit knowledge of the learning objectives of both teachers and residents, it does not mean that they do not have expectations about the learning process. It is clear that the residents have different learning goals than teachers, and this would be a problem. The results would not necessarily demonstrate the satisfaction of both teachers and residents.

**Take-home Messages:** It is valuable to inquire about the perspective of belonging and congruence that teachers and residents have on the image from which it should be evaluated to ask a specific question about the explicit knowledge of the learning objectives, in which case, even if it would give more epidemiological weight.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM06 (1852)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Improving Fiberoptic Skills in Anaesthetic Training

#### AUTHOR(S):

- **Christine Daniels, Charing Cross Hospital, UK (Presenter)**
- Joseph Manjaly, Charing Cross Hospital, UK
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#### ABSTRACT

**Background:** Fiberoptic intubation (FOI) is an essential anaesthetic competency, that is needed in low frequency but high risk situations. This means that exposure to this skill during training is low, leading to reduced levels of confidence amongst trainees. A preliminary study found that 39% of anaesthetic trainees felt they lacked exposure here and wanted to improve this skill. The aim of this educational project was to introduce a novel teaching method to teach this competency involving cross-specialty learning. Ear-Nose-Throat (ENT) specialists use very similar techniques during awake fine nasal endoscopy (FNE), which are often routinely performed in clinics.

**Summary of Work:** We proposed a weekly programme whereby anaesthetic trainees were allocated to an ENT clinic where FNEs are commonly performed to improve their experience in using a fiberoptic scope. Here they were able to use the fiberoptic scope in an awake patient. Data was collected from 27 trainees over a 14 month period. Confidence levels were assessed in 6 domains using a 5 point likert scale both pre and post intervention. Qualitative data on the impact of the intervention was also collected.

**Summary of Results:** 88% of trainees have said the education program has changed their practice and 100% would recommend it to anaesthetic trainees at some point in their training. There was a 31% increase in confidence levels with regards to setting up the equipment, a 16% increase in discussing and consenting the procedure, a 14% increase in performing an asleep FOI with supervision; a 24% increase in performing an asleep FOI without supervision; a 21% increase in performing an awake FOI with supervision and a 38% increase in performing an awake FOI without supervision.

**Discussion and Conclusions:** This was a valuable novel training opportunity and confidence levels increased across all domains following our educational program. Trainees valued the experience and left very positive qualitative feedback.

**Take-home Messages:** The multi-disciplinary nature of modern care means that many skills are cross covered by different specialties. We cannot underestimate the benefit of learning from one another. In an era of competency-based education, more advantage should be taken of cross-specialty training.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM07 (361)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Will scenario simulation by anesthesia residents improve knowledge retention in simulation-based Anesthetists Non-Technical Skill?

#### AUTHOR(S):

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#### ABSTRACT

**Background:** We aimed to determine whether scenario simulation teaching by anesthesia residents could improve their knowledge retention at 90 days compared to anesthesia residents who attending a simulation-based Anesthetists Non-Technical Skill (ANTS) workshop.

**Summary of Work:** This was a prospective interventional study in November 2017 during an ANTS simulation workshop for anesthesia residents in a university hospital in southern Thailand. Third-year residents assigned as scenario simulators had 6 weeks to prepare for a case scenario under supervision before the workshop. All anesthesia residents took the pre-test that consisted of 20 multiple-choice questions with four choices. The simulation workshop consisted of three case scenarios of three themes: team working; task management; and decision making. Post-tests were given 90 days after the workshop. A comparison of the post-test and pre-test results was performed by paired t-test. The potential predictors of differences in the post-test and pre-test were analyzed by multivariate linear regression analysis and presented as beta coefficient ( $\beta$ ) and standard error (SE).

**Summary of Results:** The roles consisted of seven scenario simulators, seven participants, and 10 observers. The overall 90-day post-test scores increased significantly compared to the pre-test score (13.2 vs 11.7,  $P=0.007$ , respectively). The predictors of differences in the 90-day post-test and pre-test score were third-year residents (vs first-year resident) ( $\beta \pm SE = 4.0 \pm 1.8$ ,  $P=0.021$ ), the roles of participants and observers (vs scenario simulator) ( $\beta \pm SE = 5.5 \pm 1.7$  and  $6.7 \pm 2.0$ ,  $P=0.002$ , respectively). However, second-year resident (vs first-year resident) ( $\beta \pm SE = 2.6 \pm 1.1$ ,  $P=0.0003$ ) and the role of scenario simulator (vs participants and observers) ( $\beta \pm SE = -6.6 \pm 1.8$  and  $-6.5 \pm 2.2$ ,  $P=0.0005$ , respectively) were the predictors of high pre-test score.

**Discussion and Conclusions:** The role of scenario simulator did not improve in 90-day knowledge retention in the ANTS workshop, but the roles of the participants and observers did. This may be because the pre-test score of this role was already high and it did not improve much after the workshop compared to the other roles.

**Take-home Messages:** To gain knowledge retention in an ANTS simulation workshop, the anesthesia residents should participate by attending or observing the workshop without the necessity of being scenario simulators.

## #3MM Posters - Postgraduate - Speciality Training

### 3MMo8 (1344)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Family Medicine Supervisors' perceptions of the development of a blended learning programme for registrar training

#### AUTHOR(S):

- **Ann George, University of The Witwatersrand, South Africa (Presenter)**
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#### ABSTRACT

**Background:** The potential for E-learning to improve access to medical education across distributed training platforms is especially relevant in low- and middle-income countries. Given staffing constraints for the Family Medicine degree at one South African university, a seminar-based training programme was replaced with a blended learning format, with the main aim of standardising the registrar training across seven districts in two South African provinces. This paper reports on the challenges experienced by the consultants who coordinate the training in their districts and who developed the blended training programme. The lessons learned could be valuable to others undertaking similar initiatives.

**Summary of Work:** The development of the blended programme began in October 2016, for implementation in January 2018. Semi-structured interviews were conducted with four coordinators in November 2017. The coordinators were asked about their experiences while developing the programme. The interviews were audio recorded and transcribed verbatim. The transcripts were analysed thematically, using MAXQDA 2018 to manage the analysis.

**Summary of Results:** The main challenge identified was the problem of deciding the breadth and depth of content to teach. Another problem was the coordinators' lack of technological proficiency, both with the university's learning management system and with computers in general, which hindered their ability to develop the online components. Other challenges included a lack of time, insufficient people involved in the project and the difficulties with recruiting more people to assist with developing the programme in time to be rolled out. There were also concerns around the format of the online components, the best resources to use and the need for quality assurance of the online content. Despite the many challenges encountered, the coordinators felt that the process had enhanced their knowledge of teaching, especially when integrating the online resources.

**Discussion and Conclusions:** The many challenges encountered meant that the programme was not completely ready by January 2018 and had to be rolled out as a work in progress, with a different format to the one initially envisaged. The lessons learned allow recommendations that could counter the time- and labour-intensive nature of the process.

**Take-home Messages:** Converting existing programmes to a blended learning format is time- and labour-intensive, requiring adequate planning and preparation.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM09 (2837)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Explaining the Challenges of the Master of Public Health (MPH) program from the perspective of family physicians graduated from this course: a qualitative study

#### AUTHOR(S):

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- Mahkameh Tournchi, Medical Education Research Center, Education Development Center, Guilan University of Medical Sciences, Iran
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- Nafiseh Dadgaran, Guilan University of Medical Sciences, Iran

#### ABSTRACT

**Background:** The Master of Public Health (MPH) is designed to empower the family physicians working in the health system of Iran. One of our current problems is the lack of recognition of the problems and inability to find the right solution for the educational problems of the graduates. Since there are few studies in the field of education and assessment of Master of public health in Iran, and most studies have been carried out quantitatively, we decided to do this study by qualitative content analysis method with the aim of explaining the challenges of the Master of Public Health (MPH) program from the perspective of family physicians graduated from this course in Guilan University of Medical Sciences.

**Summary of Work:** The method of this study was Conventional Qualitative Content Analysis. Sampling was purposeful and according to data saturation, 16 (9 women and 7 men) MPH graduate family physician participated in semi-structured interviews. The data analysis process was performed according to Lundman and Graneheim 2004 methods using 2010 MAXQDA software. To ensure credibility of the findings, member Check, immersion, and prolonged engagement with data were used

**Summary of Results:** After analyzing 718 initial codes, 4 main themes and 9 categories including: Personal factors (Motivational, and Challenging categories), Professional factors (Career Prospects and, Professional Benefits categories); Educational factors (Educational Content, Educational Management, and Faculties categories), and Structural factors (Educational Facilities, and Educational Background categories) were extracted.

**Discussion and Conclusions:** Identify the Challenges of the MPH Course listed in this study helps managers, curriculum planners and faculties to identify the weaknesses of the curriculum and eliminating them as much as possible, while reviewing the educational program. They will also be more aware of educational and structural issues of the program and the professional and individual issues of the learners and will be able to plan for the improvement of the quality of education.

**Take-home Messages:** Organizing a service delivery system around the education of family physicians is associated with increasing the quality and effectiveness of services, improving community satisfaction, reducing costs, and increasing access, and social justice.



## #3MM Posters - Postgraduate - Speciality Training

### 3MM10 (184)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### UK General Practitioner trainers' views and concerns on supervising disabled GP trainees - a structured interview study to elicit these and identify relevant learning needs

#### AUTHOR(S):

- Susan Buck, NHS Education for Scotland, UK (Presenter)
- Meiling Denney, NHS Education for Scotland, UK

#### ABSTRACT

**Background:** The General Medical Council guidance document 'Welcome and Valued' revised in 2018 highlights the importance of equality for doctors with a disability, and support for trainees in practices must reflect this. Doctors who are disabled or have long term health conditions should be supported through their training and be able to contribute to much needed UK medical workforce. This study explored the views of General Practitioner educational supervisors towards disabled trainees, and identify any training needs of the supervisors themselves.

**Summary of Work:** Structured personal interviews with undertaken with 5 educational supervisors, recorded with written consent and assurance of confidentiality. Each supervisor was given 3 scenarios involving disabled trainees, asked how they would manage these, and what implications they thought this would have for the trainee regarding achieving the required competencies for GP, and for the practice. The recordings were subsequently analysed to identify themes within the responses, as well as any support that supervisors felt would be helpful to them.

**Summary of Results:** GP Supervisors had varying experiences of supporting disabled trainees. They were keen to support them, but were concerned that others in the practice may perceive them as a burden. Supervisors wanted advance notice about disabled trainees so they could plan necessary training adaptations such as longer induction, additional equipment, and organisation of workload. They valued clear advice about how trainees whose functioning is impaired would meet competences, further training for themselves, and easy access to advice when needed. They were concerned about funding for any necessary additional equipment, and felt that they needed to be supported themselves as supervisors.

**Discussion and Conclusions:** Educational Supervisors felt it would be rewarding to successfully support a disabled trainee, and identified their own learning needs in this as trainers. They wished to have more information and training on this.

**Take-home Messages:** GP trainers are positive about supervising disabled trainees but have concerns about their own knowledge and skills relating to this. There is scope for educational organisations to be proactive in providing this to enable disabled trainees to optimise their time spent in primary care and fulfil their potential.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM11 (2964)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

## Developing an enquiry-based learning programme: constructing a spiral curriculum

### AUTHOR(S):

- Rachel Owers, Southampton GP Education Unit, UK (Presenter)
- Johnny Lyon-Maris, Southampton GP Education Unit, Wessex Deanery, UK
- Samantha Scallan, Wessex School of General Practice, Wessex Deanery, UK

### ABSTRACT

**Background:** General Practice (GP) trainees in their first two years of postgraduate specialty training attend half-day educational sessions each month focused on their learning needs as a future GP. For seven years the Southampton GP Education Scheme has used an 'enquiry-based learning' (EBL) approach embedded in a 'spiral curriculum' structure (Bruner, 1960) to provide a framework for learning. This paper presents the outcomes of a longitudinal development and evaluation of this curriculum. It examines how this approach meets the learning needs of trainees across a range of training contexts and at different stages of learning, as well as remaining dynamic to syllabus change.

**Summary of Work:** An approach to curriculum development was adopted based upon andragogic learning principles, set within a spiral curriculum. The sessions are created and resourced by a case writer. Each is mapped to the Royal College of General Practitioners GP training curriculum, identifying the key topics of learning as well as vertical themes (e.g. consultation skills) which run throughout packs allowing them to be revisited, as advocated by Bruner. In practice learners prepare for a session using a workbook. In the session they analyse and discuss their understanding of the case material, they can research unknown aspects using given resources or seek out alternative ones, they develop their thinking using role play scenarios. After the session learning is consolidated using a follow up workbook.

**Summary of Results:** Over 7 years the trainees' perceptions of the curriculum has been gathered after each session using a questionnaire. In addition, the educational perspectives of case writers and facilitators have been explored. The sessions are well received by the trainees. Themes from trainee comments highlighted the sessions' relevance to learning for general practice, peer support and their interactive nature. In addition to the clinical topic of each session, trainees recognised curriculum themes embedded vertically over the two years.

**Discussion and Conclusions:** EBL provides a valuable, integrated framework to help GP trainees navigate their learning journey through hospital-based education and GP practice-based training.

**Take-home Messages:** Understanding the principles of curriculum development is key to designing a robust programme of education.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM12 (80)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Inspiring quality improvement (QI) in cancer care through tutors and learners

#### AUTHOR(S):

- Sabia Dayala, University of Manchester, UK (Presenter)
- Natalie Williams, Cancer Research UK, UK

#### ABSTRACT

**Background:** Despite initiatives in England that can be traced back to the NHS Cancer Plan in 2000, The Health Foundation reported (November 2018) that current 5-year cancer survival rates in England lagged behind comparable nations. It is therefore essential that the NHS drives forward significant changes that supports primary care in improving the early diagnosis of cancer.

**Summary of Work:** The aim of our work was to increase the likelihood of GP tutors offering a quality improvement project in cancer care through use of a face to face training session, using a bespoke toolkit created for use of Manchester medical students. Vignettes of student scenarios related to project work in cancer care were discussed by tutors at 3 optional workshops (5-8 tutors per workshop) who attended an annual training event, run in conjunction with Cancer Research UK (CRUK). Tutors were facilitated in small groups in how to use the bespoke toolkit. Quantitative and qualitative evaluation of the workshop was completed through questionnaires in paper and online format using non-duplicate questions.

**Summary of Results:** 20 GP tutors attended. More tutors responded to the paper questionnaire compared to online (80% response rate versus 75% respectively). All respondents said the toolkit assisted them very well (11) or quite well (5) to plan their next steps in the theoretical workshop scenarios and reported either definitely (12) or probably (4) using the toolkit in future. Qualitative comments were highly favourable.

**Discussion and Conclusions:** This toolkit aims to encourage and support quality improvement work in relation to cancer care and represents the first University and CRUK collaboration in the UK in order to support medical student involvement in cancer care at a General Practice level. Further evaluation is being conducted to assess the uptake of projects in cancer care and resulting impact on individual practices.

**Take-home Messages:** Training in small group workshops in conjunction with CRUK, using the bespoke toolkit, has had a positive impact on tutor likelihood of offering quality improvement projects in cancer care. It is hoped that this innovative approach will help to medical students to deliver sustainable transformations in cancer care at a local level in primary care, thereby developing their leadership skills and professionalism.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM13 (1023)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning Needs Analysis Among Residents and Medical Officers from various postings in the Children Emergency department (ED)

#### AUTHOR(S):

- Su Ann Khoo, KK Women's and Children's Hospital, Singapore (Presenter)
- Sashikumar Ganapathy, KK Women's and Children's hospital, Singapore
- Zaw Lwin, KK Women's and Children's hospital, Singapore
- Arif Tyebally, KK Women's and Children's hospital, Singapore

#### ABSTRACT

**Background:** Learning needs analysis(LNA) is vital in designing core curriculum in postgraduate education. Paediatric emergency medicine is reliant on a group of well- trained providers. The Children emergency department (ED) in KKH receives trainees from 3 specialties, 3 healthcare systems, every 3-6 months. There is an increasing need to design an evidence-based comprehensive teaching programme to impart knowledge and skills required in the ED.

**Summary of Work:** We distributed questionnaires with Likert-scale type responses, to 90 trainees rotating through the department in the period of 1 January 2018 to 31 December 2018. The questionnaires focused on existing styles of teaching programmes, and topics covered. Focus group interviews were held thereafter to identify common themes brought up to deepen our understanding of the needs of trainees.

**Summary of Results:** 50-68% of the trainees felt that the mock code and simulation, morbidity and mortality meeting, as well as the team- based learning(TBL) junior doctor orientation programme were most beneficial. The 5 most useful topics were paediatric trauma, approach to specific complaints, respiratory and cardiac emergencies, neurological emergencies and x- rays grandround.

**Discussion and Conclusions:** The LNA is a systematic process to identify gaps between current and desired performance to make informed decisions. The trainees have variable backgrounds in paediatric and emergency training. LNA is essential as judicious planning can help determine feasibility, tailor curricular design, and optimize resource utilization. It also identifies benchmark measures for program effectiveness, which will be useful for tracking future effect and deficiencies. In conclusion, more than half of the junior doctors preferred a teaching curriculum which helps them relate most closely to day-to-day practice in the ED, and revealed a preference for mixed-methods training in reinforcing important knowledge and skills required in the ED. The alignment of stakeholder needs with the normative needs expressed by the greater community for higher quality of training that can lead to improved learning, and subsequently, patient care outcomes.

**Take-home Messages:** Learning needs analysis is a vital step in designing a comprehensive curriculum and training for the junior doctors in the emergency department with varying backgrounds. This is crucial for their continuing postgraduate training as well as simultaneously improving patient outcomes.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM14 (1150)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### PED talks: Paediatricians Educating and Developing together

#### AUTHOR(S):

- Kate Lydekker, St George's University Hospital NHS Foundation Trust, London, UK (Presenter)
- Rosie Roots, St George's University Hospital NHS Foundation Trust, London, UK
- Katie Evans, St George's University Hospital NHS Foundation Trust, London, UK
- Nicholas Prince, St George's University Hospital NHS Foundation Trust, London, UK

#### ABSTRACT

**Background:** Working within a tertiary hospital in South London with multiple paediatric teams can make it difficult for paediatric trainees to attend teaching sessions during the day. The GMC has emphasised the importance of institutions' duty to foster an environment of learning. We therefore set out to create an innovative teaching programme that would bring these teams together in an informal educational setting with the opportunity to meet other members of the MDT.

**Summary of Work:** In September 2018, the paediatric team devised a plan to make paediatric themes accessible to the wider MDT. This was achieved through quarterly teaching sessions incorporating the Pecha Kucha™ style of presentation utilizing 'short sharp bursts' of up to date paediatric teaching involving an evening of 6-7-minute presentations plus one longer presentation (10-20 minutes) on a wide range of topics. The sessions run for 90 minutes after afternoon handover to ensure optimal attendance.

**Summary of Results:** Since the start of the programme two evenings have taken place and were well attended. Following the second session, using feedback via SurveyMonkey, we ascertained: • 79% rated it 'highly enjoyable' with 21% rating 'enjoyable' • 71% rated it 'highly educational' with 29% rating 'educational' • 100% felt pace of presentations were 'just right' • Other comments: enjoyed the short presentations and relevant topics. Most did not enjoy the inclusion of a longer talk, others commented they would like to see more involvement from the MDT.

**Discussion and Conclusions:** The evenings have been well received amongst attendees. Feedback so far shows the Pecha Kucha™ style of presentation fosters a sociable atmosphere and positive learning environment. More in depth contemporaneous feedback will be obtained over the coming sessions, with emphasis on ways to encourage not only MDT attendance but also MDT participation and presentation.

**Take-home Messages:** Members of MDT and paediatric trainees all enjoyed the teaching and particularly commented on its 'informal and enjoyable atmosphere'. There is a wide scope for improving the format and content with plans to improve on this further using feedback from earlier sessions.



## #3MM Posters - Postgraduate - Speciality Training

### 3MM15 (3086)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Not so hard! Redefining Performance Standards for Pediatric Hip Dysplasia Examination Skills

#### AUTHOR(S):

- **Deborah Rooney, Dept. of Learning Health Sciences, USA (Presenter)**
- Chase Barlow, College of Engineering, University of Michigan, USA
- Trevor Alberts, College of Engineering, University of Michigan, USA
- Clifford Craig, Department Orthopaedic Surgery, C.S. Mott Children's Hospital, University of Michigan, USA

#### ABSTRACT

**Background:** Proper examination/diagnosis of developmental hip dysplasia (DDH) are required skills for all trainees who provide neonatal care. Our previous work demonstrated the value of the MichiganHip simulator as a training tool. In spite of this, anecdotal evidence has suggested that the amount of pressure applied during a DDH exam may be a strong secondary indicator of exam quality, and pressure values could be used to define pass-fail DDH performance standards. The goal of this proof-of-concept study is to collect and evaluate authentic pressure measures from a targeted sample of expert clinicians to define acceptable pressure range (APR) as a performance criterion, and (2) evaluate preliminary validity evidence relevant to internal structure to determine if this novel measurement process could be used as a performance standard for the DDH examination.

**Summary of Work:** Study. Three experienced clinicians (pediatric orthopedics, primary care, pediatrics) examined the clinical variations of the MichiganHip (left+, right+, bilateral+, and normal). Weights were captured three times on 2 platforms (iPhone/Android), for both left and right hips using a commercially-available baby scale (Hatch Baby, Inc. Grow). Weight were converted to force (Newtons). Analyses. Differences in mean force were analyzed across clinical specialties, platform, model variations, and hip side using one-way ANOVA. An acceptable Pressure Range (APR) as an initial performance competency criterion was identified.

**Summary of Results:** Although there were no statistical differences in mean force across specialty, platform, or model variations,  $P=[.63, .95]$ , there were differences across right ( $M_{right}=29.89$  N (6.7 lbs), and left hips ( $M_{left}=24.40$  N (5.5 lb),  $F(1,58)=8.33$ ,  $P=.005$ . The estimated APR was calculated, 27.6 N (6.1 +/- 1.3 lbs).

**Discussion and Conclusions:** Although this work suggests force pressures may be used to assess DDH examination skills, more research should be done to evaluate the impact handedness may have on applied force during the DDH examination. Also more validity evidence should be examined to evaluate the ability applied force to discriminate novice and expert DDH exam abilities, and the relationship of force and correct diagnoses.

**Take-home Messages:** A commonly-available baby scale, may be used to assess DDH examination quality so we may provide feedback during simulation-based training AND ensure best quality of care for our infant patients.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM16 (2260)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Balint groups enable paediatric trainees to learn from challenging doctor patient interactions in the workplace

#### AUTHOR(S):

- Nicholas Schindler, Great Ormond Street Hospital, UK (Presenter)
- Laura Pountney, East and North Hertfordshire NHS Trust, UK

#### ABSTRACT

**Background:** As paediatricians we have the privilege to meet many young people with complex health needs and social backgrounds. Those interactions can require a significant degree of emotional resource from the doctor, yet medical training rarely involves formal mechanisms to cope with and learn from our thoughts and feelings. We explored how Balint groups might facilitate peer reflection and learning amongst paediatric trainees around challenging doctor patient relationships.

**Summary of Work:** Six small group sessions, facilitated by two paediatric registrars were conducted using the Balint methodology. A structured survey of seven questions was circulated to attendees through an online survey platform after each session. Thematic analysis was used to identify key areas of interest and semi structured interviews with some contributing trainees enabled further exploration of these themes.

**Summary of Results:** 76 paediatric trainees attended six Balint groups. Trainees commented that they have little or no allocated time within their clinical practice to reflect upon challenging doctor patient interactions, and their self-perceived ability to recognise challenging personal emotions was low. Participants felt the depersonalised Balint model facilitated exploration of difficult feelings, enhanced personal reflection and peer learning. Respondents valued reflection alongside peers; "Simple interventions like this can have a huge impact in helping trainees reflect and realising that you are not alone." Trainees also appreciated being able to reflect honestly; "the depersonalized model works well in this environment as it removes the extra emotional attachment to the patient/situation"

**Discussion and Conclusions:** There is limited opportunity for paediatric trainees to undertake personal reflection on difficult doctor patient interactions in their workplace. The structured nature of the Balint methodology can enable paediatric trainees to reflect on the doctor patient relationship in a contrastive manor, including sharing personal thoughts felt to be taboo in the workplace such as anger, dislike, and fear. Balint groups can be conducted within 45 minutes and might be beneficial as part of regular departmental education programme.

**Take-home Messages:** Our work suggests that the Balint methodology can be used to facilitate personal reflection and peer learning in UK paediatric trainees.

## #3MM Posters - Postgraduate - Speciality Training

### 3MM17 (1415)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Pediatric Resident Preparedness for Neonatal Intensive Care Unit (NICU) Disasters: A Mixed Methods Design

#### AUTHOR(S):

- Lamia Soghier, Children's National Medical Center, USA (Presenter)
- Nitin Kuppanda, George Washington University School of Medicine and Health Sciences, USA
- Joelle Simpson, Children's National Medical Center, USA

#### ABSTRACT

**Background:** Neonatal intensive care unit (NICU) disaster preparedness is essential to safely care for neonates during a crisis. Pediatric residents are core personnel who play critical roles during disaster response. However, they are seldom considered in disaster protocols and preparedness research.

**Summary of Work:** Objective: To assess pediatric residents' preparedness, their potential roles during NICU disaster scenarios, and determine their training needs. Semi-structured interviews with 10 senior pediatric trainees were used to create response choices for a survey (mixed-methods). Questions addressed resident roles and responsibilities during crises, current preparedness, prior experience, and perceived training needs. Survey results were used to confirm themes from interviews.

**Summary of Results:** Central themes included: 1) lack of prior training, 2) unpreparedness for evacuation or surge, 3) importance of disaster training, 4) insufficient knowledge of NICU disaster protocols, and 5) primary role of residents as system facilitators. Of the 37 residents invited to participate in the survey, 30 responded (81%) (57% full completion). Surveys confirmed that all residents (100%) did not have prior NICU disaster training and most were not prepared for evacuation (88%) or surge (82%) due to unfamiliarity with content and location of disaster protocols (100%). Roles included: recruiting other residents (35%), clerical work (26%), and any role assigned by supervisors (21%). Residents agreed that education on NICU disaster protocols (100% evacuation, 91% surge) would make them more prepared and most wanted to receive training (90%). Residents believed that a multi-pronged approach during every NICU rotation (53%), including multidisciplinary simulations (89%), NICU disaster handbook (78%) and a visible description of residents' role (72%) should be used. Most were willing to respond to a hospital disaster (84%) but did not know their specific role (96%).

**Discussion and Conclusions:** Pediatric residents' views on NICU disaster preparedness are quite universal and not limited to residents who self-selected for interviews. Residents lacked experience but were enthusiastic to train and willing to respond. Education should include multidisciplinary simulations delivered every NICU rotation to allow them to contribute fully to any disaster response.

**Take-home Messages:** Trainees comprise a large proportion of the workforce during disasters yet are not adequately trained for these scenarios. This survey delineates steps to address these gaps.

## #3NN Meet the Experts – Assessment Policy, Practice and Research Clinic

**Date of Clinic:** Monday, 26 August 2019

**Time of Clinic:** 1015-1200

**Location of Clinic:** Suite E, Level 0

### Experts:

- Richard Fuller & John Cookson (ASPIRE Assessment Panel), UK
- Matthew Homer & Jennifer Hallam (University of Leeds), UK

**Summary:** This session presents an ideal opportunity to meet colleagues working in Assessment policy, practice and research and get advice on how to make your assessments even better! The group's expertise spans programmes of assessment (in new and existing programmes), standard setting, blueprinting, OSCE development and the use of innovative approaches such as sequential testing

If your institution is interested in exploring an application for the Aspire Assessment award, we are happy to share advice and signpost resources.

No appointment is necessary, but if you can't make the session, please get in touch with during AMEE!



## #4A Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1530

**Location of Presentation:** Hall A, Level 2

### Every way of seeing is a way of not seeing: Critical insights into the blind spots of entrustment language

**Presenters:**

- Daniel Schumacher, Cincinnati Children's Hospital Medical Center, USA
- Lorelei Lingard, Western University, Canada
- Anneke van Enk, University of British Columbia, Canada
- Karen Hauer, University of California, San Francisco, USA
- Carol Carraccio, American Board of Pediatrics, USA
- Olle ten Cate, Utrecht University; The Netherlands

**Summary of theme and why it is important:** *"Every way of seeing is also a way of not seeing."* – Kenneth Burke

Over the last decade, the concept of "entrustment" has risen to enormous popularity and power in medical education. Underpinning the concept, however, is an elaborate yet fragile set of keywords and concepts which educators appear to conflate, interchange, and evolve to suit their purposes. This situation threatens to create a scholarly cacophony and to undermine robust entrustment decision-making in the clinical workplace. This symposium addresses this problem with three aims: to approach a more uniform lexicon of entrustment terms, to advocate the abolishment of problematic terms, and to illustrate the inherent complexity of entrustment language as a basis for high stakes decisions.

Five speakers will draw on empirical research to offer the audience specific examples across each of these areas and provide the basis for a rich discussion of how entrustment language shapes assessment decisions in the clinical workplace. "Independent practice" is often described as the goal for entrustment. When we focus on "independence," we can become blind to the interdependent nature of how care is delivered. We can also lose sight of the fundamental task of tailoring supervision to learners' abilities and progressively removing this until "unsupervised practice" can be entrusted. Does "independent practice" have a place in our vernacular? Is the goal for entrustment "unsupervised practice" or something else? Our first three speakers (Schumacher, Lingard, and van Enk) will explore these questions. We will next consider issues with the use of the word "entrustment," word contains the word "trust." What implications does that have for assessors? If you do not entrust someone does that mean that you do not trust them? Entrustment is not just about the individual to be entrusted. The bidirectional relationship between the person to be entrusted and person to entrust will be explored further in the third brief presentation during this symposium (Hauer). What is the role of the trustor's propensity to trust? Do terms like "entrustment" and "trust" shift our focus too far from what a trainee can do to what a supervisor will allow them to do based on their trust propensity? Do these terms turn the clear performance of learners into myopic decisions of supervisors? Finally, we will explore how the inconsistent use of terms might impact high stakes decisions and standard setting in the entrustment framework (Carraccio). If we do not agree on terms and definitions, how do we develop a shared mental model of what the performance of a graduating student or resident looks like? How do we set performance standards when expectations of performance by clinical competency committees (CCCs) differ from actual performance of residents? What is the role of unclear and conflated definitions in creating this gap? If expectations and performance of some EPAs are lower than others, but the community feels these EPAs are critical for practice, what impact should this have on standard setting? Our discussant (ten Cate), will reflect on the presentations, offering insights as well as provocative questions to enrich the interactive large group discussion to follow the presentations. The symposium will conclude with a discussion of potential action steps that all can take as we work through the implementation of competency-based education and specifically EPAs.

**Who should participate in the symposium?** This symposium will be of particular interest to assessment researchers, those leading assessment programs in medical education and training, members of competency committees, and administrators in the undergraduate and post-graduate medical education communities.

**What will they gain from participating?** Participants will leave the session with an understanding and appreciation for the importance of having a shared language for entrustment decision-making. We hope this understanding will be deep enough that participants will leave with not only clear definitions of terms but also a commitment to using terms that promote a common understanding and avoid possible confusion.



## #4B Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1530

**Location of Presentation:** Hall C, Level 2

### How to train your dragon: Transforming faculty development in social and behavioural sciences

#### Presenters:

- Betsy White Williams, University of Kansas School of Medicine, Clinical Program Professional Renewal Center, USA
- Jeni Harden, University of Edinburgh, UK
- Fred Hafferty, College of Medicine, Division of General Internal Medicine, Program on Professionalism and Values
- Hiroshi Nishigori, Kyoto University, Japan
- Tracey Collett, Plymouth University, UK
- Kathy Kendall, University of Southampton, UK

**Summary of theme and why it is important:** The film *How to Train your Dragon* tells the story of a boy, Hiccup who aspires to follow his Viking tribe's tradition of becoming a dragon slayer. During one attack, Hiccup shoots down a Night Fury but finding he cannot bring himself to kill the dragon, sets it free. Later Hiccup returns to the forest to find the Night Fury unable to fly because of its crippled tail fin. Hiccup gradually befriends the dragon (naming it 'Toothless' due to its retractable teeth) and makes a harness and prosthetic fin that allows him to guide the dragon in flight. Toothless and Hiccup successfully fight together against a common enemy 'the Red Death' that threatens the village. This changes the mind of the villagers about dragons and vice versa, and they begin to accept each other, working together in harmony.

AMEE has, for at least few years, undertaken workshops and symposia at its annual conference on aspects of social and behavioural sciences medical education. Based on comments and questions at these symposia, it appears that the translation of behavioural and social sciences (SBS) principles and concepts into clinical courses and into medical practice remains challenging. This symposium will address a key and persistent aspect of this challenge; faculty development in SBS. In many ways, SBS and clinical faculty are the villagers and the dragons of this story; we know that there is often a lack of understanding and poor communication between these groups. It can appear that they have very different experiences, priorities and goals, and at times may even seem to speak different languages. Yet, as in the story, they share common enemy; a concern over the preparedness for students working in increasingly complex health care settings and the ability of medical schools to adapt to these demands. Faculty development opportunities are foundational to the cultural transformations needed to tackle these challenges.

Through presentation of case-based teaching examples, we will invite the audience to consider who they are – villagers or dragons – and to participate in a discussion of how we can be the Hiccup and Toothless of our own stories: addressing cultural inertia; tackling the hidden curriculum; developing understanding and partnerships between SBS and clinical faculty; and setting examples to motivate others. We will discuss opportunities and potential barriers to developing and implementing a faculty development curriculum across the educational continuum that promotes the enhancement of social and behavioral sciences principles and concepts into practice at the individual and system level. Although not final answers, we will provide guideposts for the field in this critical enterprise.

**Who should participate in the symposium?** Medical educators, Medical education faculty, physicians, medical students

#### What will they gain from participating?

- Greater understanding of how social science (knowledge, skills and competencies) can form part of faculty development
- Insight of the opportunities and barriers to faculty development in SBS from a range of national and educational contexts
- An awareness of the benefit of teaching social sciences to physicians across the career span

## #4C Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1530

**Location of Presentation:** Hall N, Level 2

### From simulation to workplace: translating lessons for clinical event debriefings

**Presenters:**

- Walter Eppich, Northwestern University Feinberg School of Medicine, Chicago, USA
- Cristina Díaz-Navarro, University Hospital of Wales, Cardiff, UK
- Ross Scalese, University of Miami School of Medicine, Miami, USA
- Andrew Coggins, The University of Sydney, Western Clinical School, Sydney, Australia
- Rebecca Szabo, The University of Melbourne, Melbourne, Australia

**Summary of theme and why it is important:** Despite proven benefits, debriefing conversations that promote learning from clinical practice occur too infrequently. This impacts health care team functioning and, thus, patient care. Failures to implement debriefing programs are common in busy clinical environments where clinicians often think they do not have time or the skills to debrief, amidst other perceived barriers. This situation stands in stark contrast to other experiential learning domains such as health care simulation, which view structured feedback and debriefing as integral to their educational practices.

Clinicians and teams hone their clinical skills by talking about and reflecting on their performance in debriefings through regular participation in debriefings. In addition, they also hone their ability to talk about and reflect on their performance and patient care after real clinical episodes. Better translation of relevant lessons from health care simulation to clinical settings could enhance workplace learning and drive continuous performance improvements, benefitting both clinicians and patients. This symposium has three aims:

1. to provide a theoretical foundation for clinical debriefings as a driver for workplace learning
2. to translate principles from health care simulation to clinical debriefings, including the importance of psychological safety to promote honest reflective dialogue
3. to offer practical strategies to support clinical debriefings in a variety of settings

To achieve these aims, we have brought together representative experts in healthcare simulation and debriefing, each of whom will contribute a valuable perspective:

- What is debriefing and why it matters, (5 min, **Walter Eppich**)
- Real world applications of clinical event debriefings (10 min each):
  - Debriefings during general internal medicine inpatient rotation for undergraduate and graduate medical education (**Ross Scalese**)
  - Debriefing in the operating theatre (**Rebecca Szabo**)
  - Charge nurse led clinical event debriefings in the emergency department (**Andrew Coggins**)
  - TALK Debrief: a novel framework for structured team self-debriefing in clinical environments to promote learning and patient safety (**Cristina Díaz-Navarro**)

After brief presentations (45 min total), panellists will welcome questions from the audience as part of a moderated discussion to explore further applications and strategies for clinical event debriefings.

**Who should participate in the symposium?** Health professions educators across the educational spectrum, from undergraduate and graduate settings to continuing professional development

**What will they gain from participating?** After the session, attendees will be able to:

- Explain why clinical event debriefing are important and how they support workplace learning, team performance, and patient safety
- Describe a practical yet theoretically grounded approach to clinical event debriefing
- Outline practical strategies to implement clinical event debriefing in their own clinical environments

## #4D Short Communications - Teaching and Learning - Team-Based Learning

### 4D1 (533)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L3, Level 1

### Team-based learning (TBL) replaces Problem based learning (PBL) in Years 1 and 2 of a large medical school

#### AUTHOR(S):

- **Annette Burgess, The University of Sydney, Australia (Presenter)**
- Jane Bleasel, The University of Sydney, Australia
- Chris Roberts, The University of Sydney, Australia
- John Hickson, The University of Sydney, Australia
- Ceren Guler, The University of Sydney, Australia
- Inam Haq, The University of Sydney, Australia

#### ABSTRACT

**Background:** With increased student numbers in the Sydney Medical Program (from 142 Year 1 students in 1997 to 332 in 2016), and a lack of standardisation across cohorts, student satisfaction of the problem-based learning (PBL) model had decreased in recent years. In 2017, Team-based learning (TBL) replaced PBL. This study sought to explore students' perceptions of TBL in Year 1 and Year 2 of the 2017 medical program.

**Summary of Work:** Year 1 (n=275) students completed 11 TBLs in the Foundations, Musculoskeletal and Respiratory blocks. Year 2 (n=350) completed 16 TBLs in Neurology, Endocrinology and Renal blocks. TBL classes were held once per week, with approximately sixty students per class, and 11 teams of five or six students. Prior to each class, students were given pre-work, and completed an online Individual Readiness Assessment (IRAT) test. During class (two hours), students completed the Team Readiness Assurance Test (TRAT), received feedback with clarification from facilitators, followed by clinical problem solving activities. Student feedback was collected by questionnaire, using closed and open ended items. Data were analysed using descriptive statistics and thematic analysis.

**Summary of Results:** In total, 232/275 (84%) Year 1 and 258/350 (74%) Year 2 students responded. Students found positive aspects of TBL included the small group dynamics; intra-team and inter-team discussions; interactions with facilitators; provision of clinical contexts by clinicians; the readiness assurance process. Suggested improvements included: better alignment of pre-reading tasks with the TBL case; shorter class time; increased opportunity for clinical reasoning; and additional feedback on the mechanistic flowchart.

**Discussion and Conclusions:** Although the use of TBL required an instructional approach, needing direction from the tutor, it remained student-centred, generating a range of positive outcomes, including students being prepared for class, small group size to encourage peer learning, and immediate feedback by facilitators who were content experts. Suggested improvements include better alignment of tasks and timing.

**Take-home Messages:** Changes in both curricula and pedagogy are needed to prepare students for demands of increasingly complex healthcare systems. TBL has provided a successful replacement for PBL. Additionally, the application of TBL principles meant the sessions were not reliant upon a high teacher to student ratio.

## #4D Short Communications - Teaching and Learning - Team-Based Learning

### 4D2 (2450)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L3, Level 1

### Effectiveness of Team Based Learning versus Lectures in Delivering Surgical Case Management Conferences among 4th year Medical students: A Randomized Controlled Trial

#### AUTHOR(S):

- Cherrie Ann Angon, De La Salle Health and Medical Sciences Institute, Philippines (Presenter)
- Michael Lawenko, De La Salle Health and Medical Sciences Institute, Philippines
- Rafael Alexis Resurreccion, De La Salle Health and Medical Sciences Institute, Philippines
- Warren Roraldo, De La Salle Health and Medical Sciences Institute, Philippines

#### ABSTRACT

**Background:** A lot of innovative teaching techniques are being established to increase the cognition of students. In the advent of outcomes based education, team based learning is an innovative teaching learning strategy that lets the students prepare for the activity hoping that they can retain more content. In the Philippines, most medical schools use traditional lecture, therefore, the aim of this study is to compare the effectiveness of team based learning to traditional lecture type in terms of the students test scores.

**Summary of Work:** Thirty six fourth year medical students were blinded and randomized either to traditional lecture group (TL) [n=19] and team based learning group (TBL) [n=17]. A flipped classroom approach was done for both groups wherein online content with an embedded pre quiz questions was given 1 week prior to the face to face meet. An online post quiz was also given to both groups after the face to face meet. For traditional lecture group the student in charge was tasked to give a lecture on the management of acute cholecystitis with a preceptor present. For the TBL group the student was tasked to perform a TBL session with a preceptor present. Student's pre-test and post test scores were compared.

**Summary of Results:** Paired T-test was used to compare effectiveness of TBL versus traditional learning method. Comparing the pretest and posttest of both groups, there was an increase in post test scores as compared to pre test scores ( $p < 0.03$ ). Among these scores there was significant mean difference of -7. As to the level of satisfaction, TBL group stimulated their practical thinking which can be applied in clinical practice.

**Discussion and Conclusions:** Team-based learning method is significantly more effective in increasing test scores than traditional lecture in surgical case management conferences for fourth year medical students.

**Take-home Messages:** Team based learning is an innovative teaching learning strategy that can be an effective alternative to the traditional lecture based teaching for surgical case management conferences for medical students.

## #4D Short Communications - Teaching and Learning - Team-Based Learning

### 4D3 (828)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L3, Level 1

### Team-based learning (TBL) to facilitate the shift towards 'health care as a team sport'

#### AUTHOR(S):

- Yolande Reitsma, North-West University, South Africa (Presenter)

#### ABSTRACT

**Background:** From 2010 the Faculty of Health Sciences at the North-West University in South Africa included a compulsory module 'Understanding the world of health' into all 2nd-year health curricula. This implies teaching ± 1100 students from 13 different health disciplines in a 100-minute contact session, over a period of 11 weeks, in an auditorium style lecture theatre. Achieving the module's aims to develop a critical mindset regarding the world of health by exposing students to diverse disciplinary views and to foster interprofessional collaboration and peer-learning within this context, pose unique challenges. Kayingo and McCoy Hass (2018) argue that the complexity of the rapidly evolving health care landscape and the shift towards 'health care as a team sport', requires educators to continuously and critically reflect on the way they prepare students as health professionals. Students' feedback (2017 and 2018) guided our critical reflection and pedagogical redesign. In this ongoing SoTL research, we aim to satisfy our curiosity to the question: To what extent will the pedagogical redesign enhance student engagement and optimise interprofessional peer learning to better prepare our students as health professionals?

**Summary of Work:** This research study is anchored in a constructivist-interpretivist paradigm with a mixed method approach as the strategy of inquiry. Data collection instruments include a student profile questionnaire, LMS tools, focus group interviews and a module reflection sheet.

**Summary of Results:** I will share selected preliminary findings as data-analysis and the dissemination of results is scheduled to commence after August 2019.

**Discussion and Conclusions:** Delegates interested in innovative teaching practices, active-learning, Team-Based Learning, module redesign, student engagement and peer-learning will find this session valuable as it provides both a scientific and practical perspective on a pedagogical redesign.

**Take-home Messages:** As health professions educators we have to be more responsive by acting as change agents, incorporate transformative educational strategies into our teaching, enhance our scholarship and continuously reflect on our role, responsibilities and practices within the field of health science education. We have to be inspired!... to inspire!



## #4D Short Communications - Teaching and Learning - Team-Based Learning

### 4D4 (1328)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L3, Level 1

### Online Team-Based Learning Best Practice Development

#### AUTHOR(S):

- Brian O'Dwyer, CognaLearn and Embry-Riddle Aeronautical University, USA (Presenter)

#### ABSTRACT

**Background:** 1. The TBLC Online Community of Practice was formed in 2017 with 17 members from 10 institutions and has generated a whitepaper and four manuscripts pending publication. 2. Four sub-teams were formed to address preparation, readiness assurance, applications and peer evaluation. 3. Overall best practices include: a) Preparation: materials, educators and learners b) Communication: more frequent, scaffolded and modality relevant c) Technology: created or curated to support online TBL.

**Summary of Work:** The co-authors divided into teams and developed principles for online TBL across for four dimensions: preparation, readiness assurance, applications and peer evaluation. Teams then used a variety of methods including literature searches, appreciative inquiry, faculty surveys and reviews of existing online teaching frameworks in addition to drawing on the experience of the co-authors.

**Summary of Results:** Best practices for online TBL include: 1. Preparation: Providing learners with appropriate information, thoughtfully forming teams and scaffolding interactions and using introductions to create social presence. 2. Readiness assurance: Investing time for team building, flexibility in design, enhancing collaboration while maintaining course organization with efficient navigation and use of technology. 3. Applications: Considering the method of delivery (asynchronous or synchronous) and location (co-located or distributed) in the design of application exercises, employing technology to support the chosen design and using analytics to support and measure collaboration. 4. Peer evaluation: Providing rationale for peer-evaluation to ensure student buy-in, ensuring process transparency, providing multiple formative and summative evaluation cycles to promote learning and employing technology that supports data collection, analysis, and dissemination.

**Discussion and Conclusions:** Online TBL is an emerging area of practice. Best practices are in a nascent stage and will continue to evolve. This work doesn't represent an end, but rather a beginning for further refinement.

**Take-home Messages:** 1. The TBLC Online Community of Practice was formed in 2017. 2. Four sub-teams addressed preparation, readiness assurance, applications and peer evaluation. 3. Best practices include: a) Preparation: materials, educators and learners b) Communication: more frequent, scaffolded and modality relevant c) Technology: created or curated to support online TBL.

## #4D Short Communications - Teaching and Learning - Team-Based Learning

### 4D5 (1750)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room L3, Level 1

### The use of team-based learning pedagogy to educate radiographers in axial skeletal image interpretation

#### AUTHOR(S):

- Celine Tan, Singapore General Hospital, Singapore (Presenter)

#### ABSTRACT

**Background:** No available study has evaluated the effectiveness of team-based learning (TBL) pedagogy among radiographers in learning radiographic image interpretation. The primary aim of the study was to evaluate the perception of the learning experiences in the learning method, teamwork and individual preparedness using TBL and online learning approach. The secondary aim was to compare the differences in assessment scores between radiographers using both pedagogies.

**Summary of Work:** The study was carried out in December 2017 to March 2018. Twenty-four radiographers were randomly divided into TBL (n=12) and online learning (n=12). Learners acquired the knowledge through structured teaching methodologies with respect to their assigned tutorial groups. All radiographers sat for a short answer question test at the end of the tutorials. Feedback on their learning experience was collected using a 4-point Likert scale. Independent T-test and Mann Whitney U test were used.

**Summary of Results:** The response rate was 100% (n=24). The difference between the perception of learning experiences among both pedagogies were significant ( $p < 0.05$ ). Radiographer satisfaction was high with TBL. Knowledge retention was higher through tutorial discussions and collaboration with their peers during TBL. TBL group felt more prepared for the assessment. There was a significant difference in the final assessment scores for TBL as compared to the online learning group ( $M=27.5 \pm 1.62$  and  $M=23.92 \pm 2.71$ , respectively,  $p < 0.001$ ).

**Discussion and Conclusions:** TBL was able to achieve a balance between discussion and delivery of contents. TBL promoted self-evaluation and allowed learners to correct their misconception through collaborative discussions. Learning gaps were addressed. TBL allowed radiographers to identify gaps in their knowledge and promote critical thinking. On the contrary, online learning lacked the opportunity in active learning processes. There was minimal participation in the online forum as the feedback received was not instantaneous. For this reason, learners may lose momentum and motivation to participate. The lower impact of online learning as compared to TBL could be related to other factors such as distraction and environmental factors which are beyond control.

**Take-home Messages:** TBL group demonstrated higher knowledge retention and greater satisfaction in learning axial image interpretation skills. TBL is a potential pedagogy in educating image interpretation knowledge and skills among radiographers.

## #4E Research Papers - Selection in Health Professions Education

### 4E1 (19)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1420

**Location of Presentation:** Hall M, Level 1

### Is Reliance on the USMLE for Residency Screening at Odds with Efforts to Enhance Diversity among the Surgical Workforce?

#### AUTHOR(S):

- Aimee Gardner, SurgWise Consulting, Baylor College of Medicine, Houston, Texas, USA (Presenter)
- Katelyn Cavanaugh, SurgWise Consulting, MD Anderson Cancer Center, Houston, Texas, USA
- Ross Willis, SurgWise Consulting, University of Texas Health Sciences Center San Antonio, San Antonio, Texas, USA
- Brian Dunkin, SurgWise Consulting, Houston, Texas, USA

#### ABSTRACT

**Introduction:** With little objective information in application packets, residency program directors in the United States rely heavily on the United States Medical Licensing Examination scores (USMLE) as an initial filter to reduce the large volumes of candidates to a more manageable number. However, use of USMLE for selection has been criticized for its lack of validity evidence to be used for selection purposes, inability to predict later clinical performance, and potential bias against underrepresented minorities (URMs). We explore the extent to which situational judgment tests – assessments with demonstrated ability to predict job performance while also reducing adverse impact – can help capture candidate competencies and provide more equitable opportunities for URMs.

**Methods:** Industrial-organizational psychologists conducted multi-method job analyses at seven different residency programs to gather validity evidence for developing selection assessments. Each program provided 12-15 subject matter experts (SMEs) to participate. SME inclusion criteria required that all interviewees be central to the education program or represent a high-performing incumbent trainee. Each SME participated in a one-hour semi-structured interview with industrial-organizational psychologists to discuss program culture and expectations, and rated the importance of 20 core competencies derived from the literature. These data served as the validity evidence to inform development of unique situational judgment tests (SJTs) and scoring algorithms to assess applicant competency and fit. All programs lowered traditional USMLE1 cutoffs and invited all otherwise eligible candidates to take their respective assessments. URM status (women, racial/ethnic minority) of candidates who would have been considered for interview using previously-used USMLE1 cutoffs were compared to the candidate pool considered as a result of SJT performance.

**Results:** A total of 2610 applicants were invited to complete an SJT for at least one of seven surgery residency programs participating. Almost all (97%) of invited applicants completed the assessments. Seventy-two percent of all applicants represented at least one URM group (45.6% women; 46.7% non-white). USMLE1 scores and URM status were directly related, with whites performing significantly better ( $p < 0.001$ ). There was no significant relationship between URM status and SJT performance. Accordingly, reliance on SJT scores resulted in more URMs recommended for further consideration across all seven programs ( $p < 0.05$ ) compared to reliance on USMLE1 scores alone.

**Discussion:** These data reveal that reliance on USMLE as a primary screening tool may prevent URMs from even being considered for surgery residency positions. Comparison of those who would be invited using traditional screening criteria (i.e., using USMLE1 cutoffs as a primary filter) to those who would be invited using an SJT developed for selection purposes revealed substantial differences in the number of URMs considered for further screening.

**Conclusions:** The surgical education community should explore alternative screening tools with appropriate validity evidence to be used for selection purposes that can also help create a more equitable surgery workforce.

#### References:

McGaghie WC, Cohen ER, Wayne DB. Are United States Medical Licensing Exam Step 1 and 2 Scores Valid Measures for Postgraduate Medical Residency Selection Decisions? *Acad Med* 2011; 86: 48-52.

Gardner AK. How can best practices in recruitment and selection improve diversity in surgery? *Ann Surg* 2018; 267: e1-e2.

## #4E Research Papers - Selection in Health Professions Education

### 4E2 (98)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1420-1440

**Location of Presentation:** Hall M, Level 1

### Undergraduate medical course applicants' perspectives on selection cost and value

#### AUTHOR(S):

- Jonathan Foo, Monash University, Melbourne, Australia (Presenter)
- George Rivers, Monash University, Melbourne, Australia
- Louise Allen, Monash University, Melbourne, Australia
- Dragan Ilic, Monash University, Melbourne, Australia
- Stephen Maloney, Monash University, Melbourne, Australia
- Margaret Hay, Monash University, Melbourne, Australia

#### ABSTRACT

**Introduction:** Students are selected for health professions courses using a range of measures, assessing academic ability, aptitude, and personal characteristics [1]. Selection can be a costly process for applicants and their families, including costs relating to preparation courses, examination fees, travel, and time. The extent of these costs is currently unknown. Our research aims were to calculate applicant costs arising from the selection process for the medical school at Monash University (Australia), and to explore relationships between spending, socioeconomic status, and perceived effectiveness of preparation.

**Methods:** The Monash University undergraduate medical selection process uses a combination of prior academic achievement (high school matriculation score) and aptitude test scores (Undergraduate Medical and Health Sciences Admission Test [UMAT]), generating a shortlist of candidates who are then offered a Multiple Mini Interview (MMI). Applicants who attended an MMI for 2018 intake were invited to participate in an online survey. Our focus was on explicit and implicit costs arising from the UMAT and MMI. Data was collected on socioeconomic status, perceived preparation effectiveness, and costs associated with preparation (e.g. coaching products, study time) and attendance (e.g. travel costs, accommodation). Costs are in 2018 Australian Dollars.

**Results:** The response rate of the survey was 99% with 381 responses received. The median respondent was in the 94th percentile for educational advantage (based on school), and 84th percentile for socioeconomic advantage (based on home location). The median cost to applicants was \$1446 (IQR 776-2283) for the UMAT and \$721 (IQR 341-1163) for the MMI. The most utilised form of preparation for the UMAT was commercial preparation courses (n=270; 71%), with a median cost of \$500 (IQR 338-800). A statistically significant small positive correlation was found between amount spent on commercial UMAT preparation courses and applicant perceptions of its effectiveness ( $r=0.24$ ,  $P<0.05$ ). Similar correlations were also found for other UMAT and MMI preparation resources. No statistically significant correlation was found between socioeconomic status and amount spent.

**Discussion & Conclusion:** The costs and perceptions of effectiveness explored in this study provide new insights into the experience of applicants applying to medical school. Although applicants found costlier preparation resources more effective, the actual return on investment is unclear, with existing (albeit limited) literature on commercial preparation programs indicating little, no, or negative effects on outcomes [1]. Despite the lack of efficacy evidence, perceptions of efficacy associated with commercial preparation courses pervades applicant thinking, and has implications on the perceived equity of selection processes. Our study population came from relatively high socioeconomic backgrounds. Therefore, it is unlikely that, for the most part, applicant preparation decisions were limited by financial ability. Rather, the under-representation of applicants from low socioeconomic backgrounds is better explained by socio-cognitive career theory, in which cost is just one element [2]. Even at the application stage of the selection process, lower socioeconomic demographics are under-represented, and are further disadvantaged by screening using measures of prior academic achievement and aptitude test scores, but not interviews [2]. Future investigations into selection costs should focus on its influence on applicants getting to the interview stage.

#### References:

[1] Patterson F, Roberts C, Hanson MD, et al. 2018 Ottawa consensus statement: Selection and recruitment to the healthcare professions. *Medical Teacher*. 2018;1-11.

[2] Griffin B, Hu W. The interaction of socio-economic status and gender in widening participation in medicine. *Medical education*. 2015;49(1):103-113.



## #4E Research Papers - Selection in Health Professions Education

### 4E3 (106)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1440-1500

**Location of Presentation:** Hall M, Level 1

### Bridging the cultural divide? Exploring UK school pupils' perceptions of medicine

#### AUTHOR(S):

- Kirsty Alexander, University of Aberdeen, Aberdeen, UK (Presenter)
- Jennifer Cleland, University of Aberdeen, Aberdeen, UK
- Sandra Nicholson, Barts and The London School of Medicine and Dentistry, London, UK

#### ABSTRACT

**Introduction:** Literature published more than 10 years ago reported that UK individuals from non-traditional (lower socioeconomic) groups may not consider, or aspire to, medicine because of sociocultural barriers. Instead they perceive medicine as 'not for the likes of me'.<sup>(1)</sup> Since this time the UK Higher Education landscape has undergone significant change, with an increased emphasis on student choice and widening access (WA) initiatives. Consequently, this study looks anew at the perceptions of medicine held by school pupils from non-traditional backgrounds to assess whether sociocultural factors remain a major barrier to the profession.

**Methods:** Ten focus groups were conducted with 71 high-achieving pupils in their penultimate or final year at stated-funded UK high schools (aged 16-18). Participants attended schools engaged with medical schools' WA initiatives: that is, schools from which fewer young people progress to Higher Education at a university or college than the norm. Focus groups were audio-recorded and transcripts were analysed thematically using template analysis - a largely data-driven approach. Themes were then interpreted through the conceptual lens of the 'reflexive habitus' – an adapted version of Bourdieu's classic concept.<sup>(2)</sup> This viewpoint highlights how individuals are able to reflexively alter their dispositions (behaviours, beliefs and tastes) to inform their decisions about how to act and appear in various social contexts. The lens facilitated a comparison of how the pupils' perceptions and expectations of medicine were challenged, reinforced or altered if they developed contact to those within the profession.

**Results:** Participants did not perceive that sociocultural differences would deter them from aspiring to, or pursuing, the career of their choice. Some participants identified their 'different' backgrounds as a strength to bring to medicine. They reported that intrinsic motivators (personal interest and fulfilment) were most important in their own career choices. When asked what they believed might have motivated current medical students for the career, participants debated the role of extrinsic motivators (high status and income) versus intrinsic ones. 'Hot knowledge' (social contacts) from within medicine helped some participants reconcile any 'clash' in perceived values and better imagine themselves in the profession.

**Discussion & Conclusion:** These non-traditional school pupils, attending state schools engaged with WA initiatives, appear to have embraced the belief that medicine is for anyone with appropriate desire and ability, regardless of their background. This suggests that the sector's efforts to remove perceived sociocultural 'barriers' to the profession may have been successful. Furthermore, some pupils reported that some aspects of their 'difference' (diversity) could help enrich the workforce and patient care. This positive view of diversity perhaps heralds a further – if still tentative – change in attitudes about who 'belongs' in medicine and why.

#### References:

- 1.Greenhalgh T, Seyan K, Boynton P. "Not a university type": focus group study of social class, ethnic, and sex differences in school pupils' perceptions about medical school. *BMJ*. 2004;328(7455):1541-4.
- 2.Decoteau CL. The reflexive habitus: Critical realist and Bourdieusian social action. *Eur J Soc Theory*. 2016;19(3):303-21.



## #4E Research Papers - Selection in Health Professions Education

### 4E4 (229)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1520

**Location of Presentation:** Hall M, Level 1

### How do entrants to courses designed for underrepresented students perform compared to peers on standard medical degree courses?

#### AUTHOR(S):

- Sally Curtis, University of Southampton, Southampton, UK (Presenter)
- Daniel Smith, General Medical Council, London UK

#### ABSTRACT

**Introduction:** Diversifying and enriching the medical profession by reducing social exclusivity is a key aim of the medical profession around the world. In the UK, Gateway courses are increasingly popular widening participation (WP) routes into medicine, designed to attract and retain students under-represented in medicine, especially those from low socioeconomic backgrounds. These courses provide a more accessible entry to medical school and aim to support students to successfully progress through their studies. There is little evidence on the performance of students on Gateway courses and if these courses support students to achieve their academic potential.

**Methods:** Data from the UK Medical Education Database<sup>2</sup> (UKMED) were obtained for the three longest running gateway courses and standard entry medicine (SEMED) courses at the same institutions, for students starting between 2007 and 2012. These data included A-levels and UK Clinical Aptitude Test (UKCAT) scores on entry to medical school and Educational Performance Measures (EPM), Situational Judgement Test (SJT) and Prescribing Safety Assessment (PSA) scores as outcomes measures. 4,471 students completed their entire medical degree at the same medical school on a SEMED or Gateway course. 3,638 had one or more of the three outcomes on graduation and were included in the analysis to determine performance and whether course type predicts EPM, SJT and PSA scores after controlling for attainment and aptitude on entry.

**Results:** Students on the SEMED courses had higher attainment (A-level points, Cohen's  $d = 1.338$ ) and aptitude (UKCAT test scores, Cohen's  $d = 1.078$ ) than those on Gateway courses on entry. On exit SEMED students had higher mean EPM scores (Cohen's  $d = 0.616$ ) and PSA scores (Cohen's  $d = 0.653$ ) compared with Gateway students.

Undergoing a SEMED course is associated with higher EPM scores (accounting for 6.5% of the variance) and higher PSA scores (accounting for 6.5% of the variance) with no control for entry measures. When accounting for measures of attainment and aptitude on entry, course type is still a significant predictor of EPM (but only accounts for 1.8% of the variance) and PSA (but accounts for less than 1% of the variance).

There is a smaller significant difference in SJT scores between SEMED and gateway students (Cohen's  $d = 0.114$ ). Higher SJT scores are associated with course type when performance on entry is not controlled for but when measures of performance on entry are included course type is no longer significant as the variance in SJT scores is explained by A-levels, which co-varies by course.

**Discussion & Conclusions:** Students on Gateway courses have lower scores on entry to medical school, which is congruent with the entry criteria. However, there is a smaller difference in performance on exit than at entry between the two courses. This could indicate that students on Gateway courses show improvement in performance at medical school. Students on SEMED courses demonstrate better performance in EPM and PSA assessments. However, there was a reduction in this effect after accounting for initial attainment and aptitude. Course type was no longer a significant predictor of SJT performance after accounting for attainment and aptitude indicating similar performance in non-academic assessments for students on both courses.

Students from underrepresented groups may demonstrate lower attainment but they also show improvement in performance at medical school narrowing the gap with SEMED students. This indicates gateway programmes do help students achieve their potential.

#### References:

1. Entry requirements for UK medical schools - 2019 entry. <https://www.medschools.ac.uk/media/2357/msc-entry-requirements-for-uk-medical-schools.pdf> (accessed December 2018)
2. Dowell J, Cleland J, Fitzpatrick S, McManus C, Nicholson S, Oppe T, Petty-Saphon K, Sierocinska King O, Smith D, Thornton S, White K. The UK medical education database (UKMED) what is it? Why and how might you use it? *BMC Medical Education* (2018) 18:6

## #4F Research Papers - Feedback in Health Professions Education

### 4F1 (67)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1420

**Location of Presentation:** L6, Level 1

### Strategies Used by Master Adaptive Learners when 'Planning' for Learning: A Qualitative Study in Graduate Medical Education

#### AUTHOR(S):

- Linda Regan, Johns Hopkins University School of Medicine, Baltimore, USA (Presenter)
- Michael Gisondi, Stanford University School of Medicine, Palo Alto, USA
- Laura Hopson, University of Michigan Medical School, Ann Arbor, USA
- Jeremy Branzetti, New York University School of Medicine, New York, USA

#### ABSTRACT

**Introduction:** The ability to adapt expertise to both routine and uncommon situations, termed adaptive expertise, has recently been suggested as a necessary skill for practicing physicians. The Master Adaptive Learner framework (Cutrer 2017) proposes four key phases of learning necessary for the development of adaptive expertise. The first phase, 'planning' for learning, includes three steps: identification of gaps, prioritization of gaps to be addressed, and identification of learning resources. The aim of this study is to identify key strategies used by master adaptive learners as they are 'planning' for learning.

**Methods:** Using a constructivist paradigm, we conducted a qualitative study using focus groups to identify themes among a cross-specialty learner group of post-graduate trainees. We employed purposeful sampling, asking program directors to identify learners in their training programs who exhibited characteristics of the Master Adaptive Learner framework. We recruited voluntary participants from those identified to participate in focus groups at four university-based teaching hospitals in the United States. Transcripts were coded by two independent coders using a constant comparison analysis until saturation of codes was achieved. These codes were grouped into themes and refined through an iterative process until no further themes were identified.

**Results:** A total of 204 codes were identified from the transcripts of seven focus groups with 38 total participants representing multiple specialties. From these we established six major themes that represented key strategies used in the 'planning' phase of learning. Master adaptive learners identify their knowledge gaps through two forms of self-assessment: Performance-driven gap analysis occurs when learners compare their performance against a standard, while Community-driven gap analysis is facilitated by interactions with others in the learning environment, including teachers, peers, and students. Learners described two schemas used to prioritize gaps, Triage and Adequacy. Triage is the process in which learners make decisions regarding the importance and order of their learning tasks, as they ration their limited time. Adequacy is the process of defining an end-point for learning that signals that it is acceptable to move on to another task. Finally, learners identified two methods to select learning resources. Intentional adaptation is the deliberate, and sometimes opportunistic, choice of resources to best address identified gaps in a specific learning environment. Weighted curation is the iterative process by which learners dynamically evaluate the characteristics of the learning resource, such as credibility, applicability, or ability to engage with the material.

**Discussion:** We identified six strategies used in the 'planning' for learning phase of the Master Adaptive Learner model. Through narrative examples, trainees articulated their approaches to identifying, prioritizing, and addressing learning gaps, as well as barriers to the implementation of these strategies. All of these techniques rely on informed self-assessment and the determination of personal learning needs. In addition, many of these schema are developed through trial-and-error rather than formal instruction, even among this cohort of master learners. These findings may have important implications for curricula designed to teach learners how to best learn.

**Conclusions:** Trainees identified as master adaptive learners utilize six specific strategies to plan for learning. Learners who are not adept at independent learning may benefit from knowledge of these strategies. Educators should develop specific interventions to target and facilitate learner development of these strategies.

#### References:

Cutrer WB, Miller B, Pusic MV, Mejicano G, Mangrulkar RS, Gruppen LD, Hawkins RE, Skochelak SW, Moore DE. 2017. Fostering the Development of Master Adaptive Learners: A Conceptual Model to Guide Skill Acquisition in Medical Education. Acad Med. 92(1):70-7

## #4F Research Papers - Feedback in Health Professions Education

### 4F2 (170)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1420-1440

**Location of Presentation:** L6, Level 1

### Student feedback literacy: the development of a framework for practice

#### AUTHOR(S):

- Elizabeth Molloy, The University of Melbourne, Melbourne, Australia (Presenter)
- David Boud, Deakin University, Melbourne, Australia
- Michael Henderson, Monash University, Melbourne, Australia

#### ABSTRACT

**Introduction:** A recent focus within the feedback literature is the conception of 'feedback literacy', where students are viewed as active players rather than passive recipients of performance information (Carless and Boud 2018, Noble et al. 2018). These publications are either conceptual in nature, or have an empirical focus on educational interventions to actively engage learners within classroom or workplace feedback processes. To date, we know little about learners' perspectives on, and experiences of, the roles they play in seeking, sense-making, and using feedback information for their own benefit.

**Methods:** Our research question was: how can we identify that learners demonstrate feedback literate behaviours or approaches within their programs? Our aim of this paper is to further clarify what constitutes learner feedback literacy and establish directions for research and practice within health professions education. The study was conducted at two Australian universities to explore feedback perceptions and practices. Data were drawn from open-ended questions in a large-scale student survey across all faculties (n=4514) supplemented with 4 focus groups (n=28) and student interviews (n=20). A Thematic Analysis approach was used in which the three authors analysed the data, and through a series of iterations, arrived at codes representing occasions of learner feedback literacy (provisional student feedback literacy framework). The researchers used the provisional framework to analyse the interview and focus group transcripts and made final adjustments to produce the final student feedback literacy framework presented in this paper.

**Results:** The Student feedback literacy framework has 32 empirically-informed items across three categories: 1) Understands feedback processes and purposes (10 items). Example: Appreciates the role of standards and criteria in judging the work of oneself and others (item 2). 2) Initiates and participates in information sharing and processing (10 items). Example: Builds trust in facilitating honest and meaningful information exchanges with others (item 6). 3) Plans and acts (12 items). Example: Responds to feedback information from others through goal-setting and planning how it might be utilized in future work (item 3)

**Discussion & Conclusions:** Identifying characteristics of student feedback literacy can be subsequently used for program design in the health professions (incorporating activities to promote feedback literacy) and further research. Embedding activities in first year would be a high priority, as well as progressive development of these feedback literacy competencies over time (increasing opportunities and complexity of the demands as students gain more knowledge and skills). Building in associated summative assessment to help orientate learners to the importance of these 32 capabilities will also be key. A challenge within health professions education will be curriculum crowding. For this to work, the development of feedback literacy cannot be an add-on but rather needs an integrated strategy, starting year one so that learners do not become reliant on limited opportunities for 'feedback' input from teachers (further reinforcing a limited view of feedback as the responsibility of the teacher).

The framework challenges commonly held assumptions about students and what they are capable of when it comes to feedback. The uptake of educational practices arising from the framework could encourage students to shift from a place of making the most of hopefully useful information (feedback as telling) to a position as active seekers and translators of feedback information. One of the compelling rationales for the development of these feedback capabilities is that they have currency in the workplace, beyond university courses.

#### References:

- Carless, D., Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. Assessment and Evaluation in Higher Education. DOI: 10.1080/02602938.2018.1463354
- Noble, C., Sly, C., Collier, L., Armit, L., Hilder, J., & Molloy, E. (2018). Enhancing feedback literacy in the workplace: a learner-centred approach. In S. Billett, J. M. Newton, G. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

## #4F Research Papers - Feedback in Health Professions Education

### 4F3 (174)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1440-1500

**Location of Presentation:** L6, Level 1

### Direct observation patterns in longitudinal training relationships: general practice residents' experiences

#### AUTHOR(S):

- Chris Rietmeijer, Dept of General practice and elderly care medicine; Amsterdam University medical centers, location VUmc, Amsterdam, The Netherlands (Presenter)
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- Pim W Teunissen, School of Health Professions Education, Maastricht University, Maastricht, The Netherlands

#### ABSTRACT

**Context:** A growing body of research analyses the poor implementation of direct observation (DO) in residency, pointing in the direction of longitudinal training relationships as a way forward<sup>1,2</sup>. A common feature in this research is that DO itself tends to remain a black box, hardly explored as a phenomenon in itself. Different reasons for and practices of DO may possibly lead to different effects. With this study we explored what DO entails in longitudinal training relationships, according to residents, and if and how DO helps them learn: what are the possible manifestations, meanings and effects of DO, according to residents? A differentiated picture of DO can guide future interventions to make DO work better in residency.

**Methods:** We followed a constructivist grounded theory approach, conducting four focus group sessions with a total of 31 participants, all general practice residents in their first or last year of training. Focus group discussions were about residents' experiences with various manifestations of DO of technical skills. Through open coding of the transcripts, memo writing and constant comparison, a model describing the mechanisms that led to various effects of DO on residents was constructed and refined, iteratively collecting and analyzing data until theoretical sufficiency had been reached.

**Results:** We found that residents were ambivalent regarding DO. DO was challenging for residents, in terms of preserving their autonomy, authenticity and credibility. Experiencing some control over situations where DO was introduced was important to residents. In how different DO situations allowed for residents' control, we found some patterns: Planned DO moments tended to add to residents' sense of control, whereas ad hoc DO was perceived as more unpredictable. In these ad hoc DO situations, four typical scenarios were recognized, of which only one led to actual DO of the resident. In the other scenarios, when for instance supervisors took over a consultation while they were asked to directly observe a resident handle the situation, there could be detrimental effects to the training relationship and residents' learning. An open dialogue to negotiate control over DO situations, reportedly, was important but hard to conduct. A perceived good training relationship was helpful in this, and, reversely, benefited from regularly observing each-other in planned bi-directional DO sessions.

**Discussion & Conclusions:** Exploring DO experiences in longitudinal training relationships with general practice residents revealed the importance of predictability of DO-situations and negotiated control of both supervisors and residents. Discussing working arrangements, and planning DO, seemed crucial to make DO happen and use it to support learning. Our findings help us understand how mechanisms within longitudinal training relationships may influence the use of DO in post graduate medical education. Further research is needed to investigate if and how our findings apply to shorter training relationships.

**References:** Kogan JR, Hatala R, Hauer KE, Holmboe E. Guidelines : The do 's , don ' ts and don ' t knows of direct observation of clinical skills in medical education. *Perspect Med Educ.* 2017;6(5):286-305.

LaDonna KA, Hatala R, Lingard L, Voyer S, Watling C. Staging a performance: learners' perceptions about direct observation during residency. *Med Educ.* 2017;211:1-13.



## #4F Research Papers - Feedback in Health Professions Education

### 4F4 (209)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1520

**Location of Presentation:** L6, Level 1

### Beyond self-regulated learning: How students develop self-regulation through co-regulated learning during clinical clerkships

#### AUTHOR(S):

- Derk Bransen, Maastricht University, Maastricht, The Netherlands (Presenter)
- Marjan Govaerts, Maastricht University, Maastricht, The Netherlands
- Dominique Sluijsmans, Zuyd University of Applied Sciences, Heerlen, The Netherlands
- Erik Driessen, Maastricht University, Maastricht, The Netherlands

#### ABSTRACT

**Introduction:** Although self-regulatory learning (SRL) is generally considered a key competence of graduating and practicing physicians, research findings suggest that students struggle to regulate their learning in clinical settings (Van de Wiel, Van den Bossche, Janssen, and Jossberger, 2011). Research into self-regulated learning (SRL) in clinical workplace settings increasingly focuses on social influences (e.g. interactions with peers, residents, clinical staff and others) on SRL-development. The impact of social interactions on students' SRL is embodied in the concept of co-regulated learning (CRL), which is defined as a "transitional process in the acquisition of SRL-skills through interactions with a more experienced other" (Allal, 2016 p. 263). In order to better monitor and support development of SRL skills, we need to gain a better understanding of how co-regulation facilitates students' SRL in clinical clerkships. In this study we explored undergraduate medical students' perspectives regarding CRL and perceived impact on the development of their SRL-skills.

**Methods:** We used individual semi-structured interviews with 11 undergraduate medical students enrolled in clinical clerkships in various hospitals in the Netherlands. Interviews were conducted between February and May in 2018 and lasted approximately 60 minutes. The interviews were audio-recorded and transcribed. We purposively sampled medical students to ensure a variety in gender, level of performance, and experience in clinical training. In line with the principles from constructivist grounded theory methodology, data collection and data analysis were conducted iteratively. In analyzing the transcripts, we made use of sensitizing concepts, acknowledging existing theoretical concepts in SRL and CRL.

**Results:** Results showed that co-regulated learning differed across students and was enacted differently when students gained clinical experience. Novice students relied heavily on peers and assignments offered by the university when formulating learning goals. With increasing experience, students were better able to specify and predefine realistic and feasible learning goals. Students developed their own unique professional identity and became more familiar with affordances and boundaries of the learning environment. Nurses often helped students in becoming familiar with the new environment and assisted students in seeking out learning opportunities. Mentors and workplace supervisors played important roles in co-regulating students' self-reflection. Whereas novice students were supported in reflecting on set learning goals, more experienced students were stimulated to reflect on general performance and experiences. Results furthermore showed that students who were already able to self-regulate their learning, engaged in interactions in co-regulated learning that developed their SRL-skills at a faster pace than students who struggled to self-regulate their learning.

**Conclusion:** Social interactions between students and others (e.g. peers, residents, nurses) in clinical clerkships are abundant and influence students' development of self-regulated learning skills. Therefore, focusing on how we can facilitate and optimize CRL in clinical workplace environments allows us to better facilitate students in their SRL-development and equipping them with tools to engage in life-long learning with each other. Furthermore, it would be interesting to examine how we can facilitate students who struggle to self-regulate their learning to engage in co-regulated learning.

#### References:

- Allal, L. (2016). The co-regulation of student learning in an assessment for learning culture. In *Assessment for Learning: Meeting the Challenge of Implementation* (pp. 259–273). <https://doi.org/10.1007/978-3-319-39211-0>
- Van de Wiel, M.W.J., van den Bossche, P., Janssen, S. & Jossberger, H. (2011). Exploring deliberate practice in medicine: How do physicians learn in the workplace? *Advances in Health Sciences Education*, 16(1), 81–95. <https://doi.org/10.1007/s10459-010-9246-3>



## #4G PechaKucha<sup>(TM)</sup> 1

### 4G1 (2576)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1409

**Location of Presentation:** Room 1.85-86, Level 1

## Palliative care in undergraduate medical curricula

### AUTHOR(S):

- Jolien Pieters, Maastricht University, The Netherlands (Presenter)
- Danielle Verstegen, Maastricht University, The Netherlands
- Franca Warmenhoven, Maastricht University, The Netherlands
- Judith Westen, Maastricht University, The Netherlands
- Jimmy Frerejean, Maastricht University, The Netherlands
- Diana Dolmans, Maastricht University, The Netherlands

### ABSTRACT

The need for palliative care is increasing due to the aging population and the growing number of people with chronic diseases, such as cancer, heart failure, COPD, and dementia (Etkind et al, 2017). Physicians and junior doctors working in almost all specialties and in many care settings will regularly have to take care of palliative care patients. Providing palliative care can be challenging and calls for specific knowledge, skills, and attitudes that need to be trained in undergraduate medical curricula. Medical students are offered insufficient education and training in palliative care (Gibbins, 2011; De Bruin, 2018; Lloyd-Williams & MacLeod, 2004) and report lack of confidence and knowledge in this domain (WHO, 2014; Weber, 2011; Eyigor, 2013; Pieters, 2019).

Within this project, a toolbox consisting of new educational materials and adapted existing materials is developed which can be used in undergraduate medical curricula. Current instructional design theories focusing on professionally relevant tasks in palliative care are used to design or redesign the materials (Van Merriënboer & Kirschner, 2018). The tasks cover six main professional activities, such as being able to treat patients from four perspectives (physical, psychological, social and spiritual), and being able to collaborate with a multidisciplinary team of professionals and relatives. The toolbox offers medical universities materials that can be flexibly integrated into their own curriculum. The toolbox has been developed in close collaboration with various stakeholders, such as teachers, students, educationalists, and palliative care experts. Within this PechaKucha, I will explain how we developed the toolbox based on current instructional design guidelines and in close collaboration with various relevant stakeholders.

## #4G PechaKucha<sup>(TM)</sup> 1

### 4G2 (2025)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1409-1418

**Location of Presentation:** Room 1.85-86, Level 1

### Teaching menstrual health - a journey towards better patient engagement as future doctors

#### AUTHOR(S):

- Rong Hui Teo, NTU Lee Kong Chian School of Medicine, Singapore (Presenter)
- Yuqing Michal Khoo, NTU Lee Kong Chian School of Medicine, Singapore

#### ABSTRACT

Background: Due to the mountainous terrain in Nepal, it is difficult for villagers to access basic healthcare or education when the nearest hospital or school could take them a day's hike. Project Aasha is a student-led Overseas Community Involvement Project with yearly services to Bung village in Nepal. In addition to bringing healthcare to the villagers via a health camp, we aim for sustainable development of the village through collaborating with local stakeholders in healthcare education and training, one of which being menstrual health education.

In Nepal, the topic of menstruation is taboo; menstrual blood is regarded as 'dirty', hence women undergoing menstruation are forbidden to touch water or stay with their families. These practices raise red flags concerning women's hygiene and accessibility to basic needs during menstruation, hence the need for education and a more positive perception towards menstruation.

As medical students, we taught the Nepalese students about menstruation and some feminine hygiene practices they could adopt. In one of two schools, we also conducted a focused group discussion (FGD) in addition to the regular teaching session. We will share our experiences teaching both schools, how we juggled different cultures and practices, and offer our insights on how FGDs improve audience engagement and outcomes. With the shift from medical paternalism to greater involvement of patients in the decision-making process, medical schools need to introduce to students a discussion-based approach in patient management. By having medical students helm a facilitator's role, such projects allow them to recognise differences, initiate discussions, and reach a common ground - skills doctors require when approaching patients with different health beliefs.

Conclusion: Conducting healthcare education encourages future doctors to make discussion and collaboration a stronghold of their doctor-patient relationships. It stimulates personal growth and enhances their abilities to engage patients.

## #4G PechaKucha<sup>(TM)</sup> 1

### 4G3 (2943)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1418-1427

**Location of Presentation:** Room 1.85-86, Level 1

### What's on your Medical Education Story Playlist? Writing and Sharing Stories as a Medical Educator

#### AUTHOR(S):

- Meghan Treitz, University of Colorado, USA (Presenter)
- Janice Hanson, Washington University, USA

#### ABSTRACT

Once upon a time, long ago, in a land far, far away, teachers taught by telling stories. They packaged information into stories so that it could be easily remembered - and passed along. We frequently ask students to reflect and share what they have learned and experienced. Teachers can also share their own personal stories with learners. Telling stories can benefit teachers and add meaning for learners. For example, narratives have been shown to improve teaching about communication, diagnosing, and other critical aspects of medicine.

Storytelling is also inherent to medical practice. As healthcare providers, we routinely listen to stories of disease and of the people who experience disease. Medical professionals are often compelled to share their own stories of medical encounters. Stories need not be long. They just need to be personal and heartfelt. By telling stories, you will connect with each student. You may build frameworks for remembering, and aid them in assimilating new learning. You might inspire a student to listen deeply or gain confidence in sharing their own stories.

Some people say that we each have our own story 'playlist' - similar to a music playlist of your favorite songs, a story playlist is a collection of our own stories that we tell again and again. These stories may be an integral part of who we have become, or we may still be working through them.

This presentation will remind the viewers of the power and importance of stories in our lives as teachers and health professionals, share snippets of stories as examples, introduce the idea of a story playlist and provide an example, discuss a framework for creating a memorable story, and suggest ways for everyone to create their own story playlist, so their stories will be ready to share in-the-moment when teaching, providing care, or reflecting.

## #4G PechaKucha<sup>(TM)</sup> 1

### 4G4 (2625)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1427-1436

**Location of Presentation:** Room 1.85-86, Level 1

## The evolving use of virtual patients in medical education

### AUTHOR(S):

- James Thomas, Keio University School of Medicine, Japan (Presenter)
- Toshiaki Monkawa, Keio University School of Medicine, Japan
- Michito Hirakata, Keio University School of Medicine, Japan

### ABSTRACT

Virtual patients (VPs) are technological tools that have continued to develop and evolve over the past fifty years. They take on a wide range of forms and may be used in the teaching, assessment, or evaluation of skills such as clinical reasoning, clinical communication, and medical history taking. Depending upon their design, they offer the potential to allow multiple learners to practise specific skills simultaneously, repeatedly, and with high fidelity, in a safe and interactive environment. Unfortunately, simulation in healthcare education still suffers from a lack of dedicated frameworks and taxonomy for instructional design and this is even more evident for simulation using virtual patients.

With recent advances in virtual reality, augmented reality, and artificial intelligence, educational institutions are starting to explore further ways to implement virtual patients in curricula worldwide. However, are they a worthwhile investment and how effective are they when compared to other educational resources and forms of simulation? What evidence exists to support their use, and what studies are still missing before they can be dismissed as a technology for technology's sake or firmly cemented in educational pedagogy as an indispensable tool?

In this talk, I will review the past and current uses of virtual patients in clinical education and highlight some of the obstacles that need to be overcome if their use is to be more widely accepted. I will introduce some of the exciting ways that virtual patients may be used over the next 5-10 years, including the integrated use of virtual reality, augmented reality, natural language processing, and artificial intelligence. I will draw upon examples from the current educational literature and explore some of the criticisms and limitations that are commonly encountered.

## #4G PechaKucha<sup>(TM)</sup> 1

### 4G5 (968)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1436-1445

**Location of Presentation:** Room 1.85-86, Level 1

## Shared mental models to support interprofessional team training: Getting everyone on the same page

### AUTHOR(S):

- Wee Shiong Lim, Tan Tock Seng Hospital, Singapore (Presenter)
- Sok Ying Liaw, National University of Singapore, Singapore

### ABSTRACT

Shared mental model (SMM) refers to the knowledge structures held by members of a team that enable them to form accurate explanations and expectations for the task and in turn coordinate their actions and adapt their behaviours to the demands of the task and other team members. SMMs can be broadly classified into task-related mental models that encompass task goals, procedures, and strategies, and team-related mental models that include role interdependence, communication patterns and shared attitudes and beliefs.

The importance of SMM for teamwork and team-performance has been recognized for almost two decades, particularly in high-risk industries such as aviation and the military. Studies in the healthcare setting echo similar findings, with SMMs described as outcomes of interventions as well as prerequisites for improved team performance. The growing necessity of team-based care underlines the increasing importance and relevance of strategies to impart SMMs in team-based learning to get 'everyone on the same page' to improve team-performance and, ultimately, patient safety.

In this PechaKucha presentation, we will illustrate the significant effect of SMM on interprofessional teamwork and team-performance in two common yet contrasting scenarios in the ward setting: acute deterioration on night call and inter-professional discharge planning conference. The former represents a short-lived action team where relatively well-structured tasks are carried out under time-pressure in a dynamic environment - team training should focus on task-related SMMs. In comparison, the latter typifies a more stable long-lived team in a lower-intensity environment with a larger team composition and more diverse task content - in this instance, greater emphasis should be placed during team training on team-related SMMs. Educational interventions designed to foster the development of SMMs such as team training, teamwork supportive tools, and group/individual reflection exercises will be discussed. We will also highlight challenges in the application of the SMM concept to interprofessional team-based training. The presentation will conclude with an exploration of the emerging role of virtual simulation to address logistical challenges in the use of simulation for collaborative learning of SMMs in interprofessional team care delivery.



## #4G PechaKucha<sup>(TM)</sup> 1

### 4G6 (1278)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1454

**Location of Presentation:** Room 1.85-86, Level 1

### PBL 360 - A story of innovation using 360-degree video to promote clinical reasoning in problem-based learning

#### AUTHOR(S):

- Jordan Tsigarides, Norwich Medical School, UK (Presenter)
- Jordan Curl-Roper, Norfolk and Norwich University Hospital, UK
- Josip Stosic, Norwich Medical School, UK

#### ABSTRACT

Problem-based learning (PBL) is implemented widely within medical curricula. Goals of the PBL session often include development of clinical reasoning skills. Paper-based trigger material lacks essential clinical information that can influence hypothesis generation. 360-degree video is a modern media format that allows students to experience content-rich clinical scenarios within PBL. Using 360-degree video to show realistic clinical scenarios can potentially improve students' clinical reasoning skills, increase learner motivation and stimulate meaningful discussion.

During this PechaKucha, we will showcase our enlightening experience of creating multiple 360-degree video scenarios for PBL. Our eighteen videos cover a nine-week PBL programme within our final-year emergency medicine curriculum. Two videos were created for each week. The first video acted as trigger material to stimulate discussion, clinical reasoning and generation of learning outcomes. The second provided a conclusion and was played during the following week. Videos were controlled with a desktop computer and viewed using an overhead projector. Students were able to pan around the scene, see/hear examination findings and interpret investigations. 'Stop & Think' moments were added to promote discussion and clinical reasoning. We evaluated students' subjective experience using a survey and gained observational feedback through independent peer review.

In comparison with paper-based cases, students felt that the 360-degree videos gave a better picture of disease, being more memorable and increasing motivation to learn. They agreed that the videos encouraged more useful discussion and consideration of human factors elements, teamwork and patient wellbeing. Qualitative data was also positive, demonstrating increased student engagement. Independent peer-review described effective hypothesis generation throughout the observed session. Full results will be available for presentation.

We filmed these 360-degree videos with limited prior experience and funding. This presentation intends to inspire other educators to produce 360-degree content, showcasing our innovative PBL scenarios and demonstrating their impact on our students.

## #4G PechaKucha<sup>(TM)</sup> 1

### 4G7 (2554)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1454-1503

**Location of Presentation:** Room 1.85-86, Level 1

## From critical thinking to critical making: craft and everyday design in medical education

### AUTHOR(S):

- Anna Harris, Maastricht University, the Netherlands (Presenter)

### ABSTRACT

The intense effort in instructional design in medical education has the potential to overlook the more mundane and yet incredibly rich practices of everyday design. Everyday design in medical schools is tinkering work involving adaption or making in creative acts of re-purpose. Hardly a new practice in medicine - tinkerers and makers have often radically transformed the field with their inventions, take the stethoscope for example - these are skills however which can be lost as medical education strives for efficiency, standardisation, transparency and objectivity.

In this PechaKucha presentation I joyfully celebrate small acts of everyday design and the craftsmanship of training healthcare professionals. The presentation draws empirically from an ongoing anthropological and historical study of the role of technologies in training doctors' sensory skills of diagnosis. This study is one of the first collaborative and comparative social studies of medical training, with years of fieldwork already conducted by a team of anthropologists, science and technology studies scholars and historians in medical schools in Western Europe, Eastern Europe, West Africa and the Asia-Pacific.

In these medical schools we have found, and been inspired by, everyday acts of making. In the presentation I will share sensory images of, and stories about, teachers' materials and innovations. I will bring these examples into a broader narrative about design and critical making, areas of scholarship and practice I suggest offer fresh new perspectives on how to approach medical teaching. I argue that we should not only be observing more closely the existing practices of creativity and improvisation amongst teachers, but also allow more space for such making in medical schools, examples being makerspaces or skillshare workshops. Attending to everyday design is not only a creative and enlightening practice, but a necessary one, in order to train adaptive, creative healthcare professionals of the future.

## #4G PechaKucha<sup>(TM)</sup> 1

### 4G8 (2335)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1503-1512

**Location of Presentation:** Room 1.85-86, Level 1

### Empathy in the Age of Technology?

#### AUTHOR(S):

- Margaret Brommelsiek, University of Missouri-Kansas City School of Medicine and School of Nursing and Health Studies, USA (Presenter)
- Gary Sutkin, University of Missouri Kansas City School of Medicine, USA

#### ABSTRACT

Humans have a complex relationship with technology, viewing it as both a tool toward enhanced performance and as a detriment that may result in our being redundant or even replaced. As technology becomes interwoven into every component of our lives, even the vessels we call 'bodies', what does our attachment to technology say about us as individuals and how is it shaping our humanness? Humanism is being open to others through engaged curiosity involving observation and active listening, reflection and deliberation. How we choose to negotiate technological advancements into our daily lives will ultimately inform our sense of place and our experiences of one another. In finding balance with technology, we must accept the fundamental human skills that cannot be replicated by machines, such as empathy, as empathy is realized through a shared experience of illness and health and through affirmation of the dignity and value of all people. Yet automation continues to infiltrate medicine. Advanced technologies are used in all aspects of medicine from electronic medical records to machinery used in diagnostics and robotic instruments used during surgery. This begs the question: what uniquely human traits will be required for making ethical decisions and an ability to cope with ambiguity?

This Pecha Kucha presentation will address fundamental questions concerning humanness in the face of technology through a visual explanation incorporating art and automation. It will explore the deeper meaning of our infatuation with technology, its impact on the social order, and preparing future generations to appreciate knowledge sharing, creativity, leadership, and interdisciplinary teamwork for ensuring an engaged and flexible society. Empathy cannot be automated. As the creators of advanced technologies we possess the power of how best to incorporate these tools into daily practice while maintaining our unique humanness.

## #4H Patil Teaching Innovation 2

### 4H1 (118)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 1.61-62, Level 1

### The “\$10 Challenge”: Teaching Scalability in Medicine

#### AUTHOR(S):

- Shomit Ghose, UC Berkeley, USA (Presenter)

#### ABSTRACT

**Background:** Silicon Valley's innovation is not in technology, but in business models: re-imagining existing processes and making them cost-efficient. This focus on scalability and cost-efficiency has disrupted legacy business models worldwide. Healthcare faces a scalability challenge too. Demands increase, but resources do not. Is there merit in teaching medical students how to think about scalability within medicine? Doing so may help future physicians discover new ways of bringing care to broader populations. Existing entrepreneurship programs help physicians invent disruptive medical products; to date, there has not been a program to invent disruptive medical practitioners.

**Summary of Work:** Considering the need for scalable healthcare, we developed the “\$10 Challenge” program, to train medical students to think like scalability-minded Silicon Valley. The program engages students in the same process of disruptive thinking that fuels start-up innovation, thereby changing the way in which future physicians think about medical practice.

Within the \$10 Challenge, medical students work in heterogeneous teams with graduate students from other disciplines. Teams identify a single “challenge” with the aim of discovering a new solution where healthcare can be delivered for under \$10/patient, helping to achieve scalable healthcare. The focus on teaching the thinking process behind Silicon Valley innovation – scalability, low-cost – makes the \$10 Challenge a unique educational vehicle.

**Summary of Results:** \$10 Challenge participants consistently devise compelling solutions for medical problems in major areas of human need. More importantly, the program teaches students to think “outside the box”, beyond existing algorithmic approaches, in envisioning medical solutions that are effective and low cost.

**Discussion and Conclusions:** Based on participant feedback, the \$10 Challenge consistently achieves its goal of teaching disruptive thinking. Current measures of the success of the method are qualitative, with quantitative results known in the future. We believe the teaching method has value and should be considered for inclusion in other medical education programs.

**Take-home Messages:** The \$10 Challenge is simple, low-cost, and imparts the Silicon Valley philosophy of “Think Big, Think Small”: think of a big problem; think of its small solution. It presents a unique and needed complement to current medical education.

## #4H Patil Teaching Innovation 2

### 4H2 (908)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 1.61-62, Level 1

### Innovating Virtual Reality Training: Decentralized Surgical Simulation Training

#### AUTHOR(S):

- **Martin Frendø, University of Copenhagen, Denmark (Presenter)**
- Ebbe Thinggaard, Department of Gynecology and Obstetrics, University Hospital Hvidovre, Denmark
- Lars Konge, Copenhagen Academy for Medical Education and Simulation (CAMES), University of Copenhagen, Denmark
- Mads Sølvsten Sørensen, Department of Otorhinolaryngology-Head & Neck Surgery and Audiology, University of Copenhagen, Denmark
- Steven A. W. Andersen, Copenhagen Academy for Medical Education and Simulation (CAMES), University of Copenhagen, Denmark

#### ABSTRACT

**Background:** Lack of access to simulation centers is a potential barrier to implementation of distributed virtual reality (VR) training. Decentralized training could be a useful solution but its feasibility and implementation is scarcely investigated. Here, we aim to evaluate the implementation and use of decentralized VR training using a freeware, high-fidelity simulator for temporal bone surgery.

**Summary of Work:** In a prospective, mixed-methods study, 20 otorhinolaryngology residents were provided three months of access to a VR simulator in their local department or at home. To facilitate self-regulated learning, participants were also given a range of learning supports for feedback and instruction. Focus group interviews were conducted and questionnaire data collected. Interviews were analyzed using thematic analysis.

**Summary of Results:** Qualitative analysis revealed five main themes: convenience, time for training, ease of use, evidence for training, and testing. Participants trained a median of 3.5 hours, primarily towards the end of the trial, and mainly used the simulator-embedded learning supports.

**Discussion and Conclusions:** Convenient access to VR training was a key feature to participants. This is important since most VR simulators are centralized at university hospitals and used in a 'boot camp' • format that only allows for massed practice, which is inferior to distributed practice. Evidence demonstrating the effect of training on a VR simulator was considered imperative to participants and motivated them to train: in order for them to invest time in training, they wanted evidence that it is worthwhile. However, despite convenient access to and evidence for training, the training volume was modest, possibly due to lack of testing and mandatory requirements. In conclusion, decentralized VR training is feasible but requires a strong instructional design and curricular implementation.

**Take-home Messages:** Decentralized virtual reality training is feasible; A strong instructional design is required for implementation of decentralized virtual reality training; Scientific evidence for learning interventions motivates participants.



## #4H Patil Teaching Innovation 2

### 4H3 (227)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 1.61-62, Level 1

### Design and implementation of a chatbot as a learning tool for medical students: a feasibility study

#### AUTHOR(S):

- Anand R, Christian Medical College, Vellore, India (Presenter)

#### ABSTRACT

**Background:** Chatbots are artificial intelligence (AI) agents that can respond to text responses to a user much like the conversational agents in market (Siri, Google Assistant or Alexa). While the question “is a chatbot really required in medical education?” is yet to be answered, in my perspective, chatbots also provide an opportunity for providing curated information for students, at the same time, providing an interactive and self-paced learning tool.

**Summary of Work:** I designed a chatbot on rule-based AI principle in which content is built into the bot. Specific triggers are also provided and linked to the content such that when a user prompts a query, the query is matched to the trigger and subsequently a response is returned to the user. I named the chatbot as ‘DiabEDeS Bot’; the content was basic information on diabetes mellitus suited for a first-year medical student. I developed this chatbot using an application called “Chatfuel” and deployed it on Facebook Messenger platform (<https://www.messenger.com/t/DiabEDeSBot>). Subsequently, I tested the chatbot for usability and acceptability in a small group of medical students (n=17).

**Summary of Results:** For the majority of students (83%), this was their first interaction with a chatbot. Students awarded a mean score (out of 10) for the chatbot on its intelligence (7.2), usefulness (7.5), relevance (7.6), trustworthiness (8.7) and enjoyment of interaction (8.7). Concise nature of information, accuracy and rapid response time were some of the features that the students liked in the chatbot. Limited responses and the inability of the chatbot to recognize some queries were features that students disliked in the chatbot.

**Discussion and Conclusions:** This study is a first to describe a model for design and implementation of a chatbot as a learning tool for medical students. This study also describes a simple methodology to develop chatbots without the requirement of knowledge on computer programming or expertise in artificial intelligence. Overall, the chatbot designed in this study was reasonably well received by medical students.

**Take-home Messages:** Chatbots are conversational agents with potential for use as learning tools in medical education.

## #4H Patil Teaching Innovation 2

### 4H4 (3261)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 1.61-62, Level 1

### Designing a 3-Dimensional Medical Curriculum Map

#### AUTHOR(S):

- Redante Delizo Mendoza, Ateneo School of Medicine and Public Health, Philippines (Presenter)
- Cenon Alfonso, Ateneo School of Medicine and Public Health, Philippines

#### ABSTRACT

**Background:** Numerous outcome based teaching and learning curricula use a tree structure where a set of general graduate outcomes branch into year level learning outcomes (LOs), into block/module LOs and to sessional LOs. While this provides a cascading view of learning outcomes, it shows limited linking across related LOs within disciplines. As the LOS become more specific, the relatedness between LOs become less obvious. Curricular trees go from general to specific, and thus is one-dimensional. To better show LO relationships, we proposed a 3-dimensional tagging system. In most medical curricula, this can be achieved by tagging the LOs to year levels, organ systems/related medical specialties (verticals) and the graduate or competencies as the 3 coordinates/dimensions.

**Summary of Work:** The Ateneo School of Medicine and Public Health (ASPMH) confers a combined MD/MBA degree. It decided to embark on curriculum re-structuring using the 3-D approach wherein more than 60 faculty mapped out their respective year module LOs against 11 ASPMH graduate competencies. Then the vertical coordinators wrote the vertical LOs and ensured alignment of the module LOs written by the module leads. They then tagged it to the ASPMH graduate competencies. A similar alignment activity was conducted across the year levels.

**Summary of Results:** Using the 3D process, large chunks of content overlaps became immediately apparent, while smaller gaps were recognized. Also, as the ASPMH graduate competencies include many soft skills such as leadership, communication and collaboration, the relevance of the combined MD/MBA programme was enhanced

**Discussion and Conclusions:** The method grouped allowed for recognition of related LOs, addressed the overlaps and gaps, and considered other LOs for further revision. Although this will still be further applied to the sessional LOs, the method has been proven largely effective at the year and disciplinary levels.

**Take-home Messages:** Current curriculum mapping techniques do not show relationships of LOs sufficiently well. If LOs are tagged to 3 dimensions, the alignment, gaps, overlaps and relationships become more easily recognizable and remedied.

## #4H Patil Teaching Innovation 2

### 4H5 (3422)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 1.61-62, Level 1

## Virtual Reality training for open surgical procedures - a new paradigm for simulation

### AUTHOR(S):

- Kartik Logishetty, Imperial College London, UK (Presenter)
- Branavan Rudran, Imperial College, UK
- Justin Cobb, Imperial College, UK

### ABSTRACT

**Background:** Virtual Reality (VR) uses headsets and motion-tracked controllers so surgeons can perform simulated open procedures in a fully-immersive operating theatre. We aimed to develop a VR platform which can be used for training surgeons for joint replacement surgery, and provide objective, automated feedback so that they can measure and track their progress.

**Summary of Work:** We used cognitive task analysis to interview 4 expert surgeons and distil their knowledge on key procedural steps, cognitive decision points, and strategies and solutions for managing complications in surgery. This information was story-boarded and then incorporated into virtual reality to create a fully-immersive 3D operating room with a patient prepared for surgery. On this virtual patient, surgeons could perform all steps of surgery in sequence, including assembling instruments and positioning implants. It was then validated by 4 expert surgeons, and a 36 trainees surgeons of differing experience.

**Summary of Results:** A Delphi consensus approach was used to assess content validity, and questionnaires were used to assess face validity. Performance of hip and knee replacement in virtual reality was assessed using in-VR metrics including operative time, number of times surgeons selected the incorrect instrument, number of times they positioned them incorrectly, and task-specific checklists. This confirmed construct validity, as related to their prior experience of performing real joint replacement surgery.

**Discussion and Conclusions:** We developed a virtual reality trainer which can place surgeons in operating rooms to safely practice surgery on virtual patients. This platform gave them objective feedback on their performance, and was validated for content, face and construct validity. As no senior supervision is required, there is no bias in the feedback.

**Take-home Messages:** This represents a new paradigm for surgical simulation, which was previously restricted to keyhole procedures. Fully-immersive VR can train and measure surgical performance, and may be an effective method to advance surgeons up a learning curve, prior to learning on real patients.

## #4H Patil Teaching Innovation 2

### 4H6 (2769)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 1.61-62, Level 1

### Recent Medical Graduates Working as Standardized Patients: Their Role as Educators to Student Doctors

#### AUTHOR(S):

- Toshiba Watson, Ross University School of Medicine Miramar Campus, USA (Presenter)
- Fiorella Melendez, Ross University School of Medicine Miramar Campus, USA
- Mariano Loo, Ross University School of Medicine Miramar Campus, USA
- Sean Gnecco, Ross University School of Medicine Miramar Campus, USA
- Melissa Smith, Ross University School of Medicine Miramar Campus, USA

#### ABSTRACT

**Background:** The concept of Standardized Patients (SPs) was introduced in 1963 at the University of Southern California by Howard Barrows, MD. Since then, the use of SPs has become common practice in most US medical institutions; Providing a safe learning environment without concern of patient mistreatment, inappropriate remarks and/or poor physical exam technique.

**Summary of Work:** At our medical school we've applied a non-traditional model. We utilize our recent postgraduate medical doctors, awaiting residency, as standardized patients (MD-SP) for students in their 3rd and 4th year of study.

OSCE and Clinical Skills Assessment video footage from a six-month period (>60 hours) was reviewed by Teaching Fellows. The clinical encounter, as well as feedback of Physical Exam and Communication Skills, were evaluated for both non-MD-SPs and MD-SPs. A checklist was used to compare deviations/drifts from script, presentation of pain, number of comments with supporting evidence, and strategies for improvement.

**Summary of Results:** Our findings indicate MD-SPs were more accurate in description of chief complaints with respect to quality and location of pain. Additionally, there was less variation in rating of Physical Exam skills, and the quality of feedback during debriefing was more detailed with opportunities for improvement using a formative assessment.

**Discussion and Conclusions:** We believe that MD-SPs, compared with non-MD-SP counterparts, can provide more specific and accurate feedback; not only improving communication/interpersonal skills but also a student's ability to take a detailed history and accurately perform physical exams. While it is not feasible to replace all non-MD-SPs, we believe MD-SPs play an important role in portraying clinical case scenarios and evaluating proper Physical Exam technique. MD-SPs can educate and provide constructive feedback in terms salient to the student. A limitation we encountered was inability of MD-SPs to recognize overuse of medical terminology when rating a student's communication proficiency with patients.

**Take-home Messages:** The use of a "near-peer" education model can be effective in OSCE/Simulated Clinical Scenario settings. Our non-traditional model can be applied in other medical schools as it provides an educational advantage to students while supporting unmatched recent postgraduates remaining medically relevant, a win-win model to all parties.

## #41 Short Communications - Assessment - OSCE 1

411 (129)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L2, Level 1

### The Sequential Objective Structured Clinical Examination (OSCE) - A Review of Effectiveness and Feasibility

#### AUTHOR(S):

- Michelle Schlipalius, Monash University and Monash Health, Australia (Presenter)
- Neville Chiavaroli, The University of Melbourne, Australia

#### ABSTRACT

**Background:** The sequential OSCE has been postulated as a method of improving the validity of clinical assessment judgments and concentrating resources where they are most needed. This is achieved by reducing the number of stations for most candidates except those judged as borderline on initial 'screening' stations. Candidates judged as 'clear passes' or 'clear fails' are not examined further, while borderline candidates proceed to a second (sequential) OSCE to allow additional information to be obtained across wider content. Criteria for passing the examination are either a clear pass at the screening OSCE or a pass at the combined screening and sequential OSCE.

**Summary of Work:** A search of Medline, CINAHL and ERIC was performed using the terms 'OSCE' and 'sequential'. Twenty-one relevant articles were identified between 1991 and 2017.

**Summary of Results:** Screening OSCEs can be expected to have a lower reliability than a complete OSCE due to fewer stations, although several studies showed this difference might be marginal. Importantly, the reliability for the assessment of borderline candidates is generally unaffected as they attend the complete OSCE. The screening OSCE is commonly around half the length of the complete OSCE. The literature recommends that the screening OSCE stations be highly discriminating and the pass score for the screening OSCE be slightly higher than the empirically derived score from standard setting to minimise the rate of false positives. Candidates generally found the sequential OSCE design acceptable. Studies reported a significant reduction in costs ranging from 23% to 35%.

**Discussion and Conclusions:** The literature suggests the sequential OSCE design provides valid, feasible and cost-effective clinical assessment of borderline candidates. Several issues in the design and implementation of sequential OSCEs are highlighted including the timing of sequential OSCEs, the degree of support provided between OSCEs, blueprinting, standard setting and communication with candidates and examiners.

**Take-home Messages:** The sequential OSCE offers a practical and theoretically defensible approach to targeting high stakes assessment where it is most needed, on borderline students. More robust research is required to optimise its design and implementation.



## #41 Short Communications - Assessment - OSCE 1

412 (1468)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L2, Level 1

### Personalized OSCE Stations to Teach about Patient-based Bias and Racism

#### AUTHOR(S):

- Elizabeth Kachur, Medical Education Development, Global Consulting, USA (Presenter)
- Ingrid Walker-Descartes, Maimonides Medical Center, USA
- Lisa Altshuler, New York University School of Medicine, USA
- Omar Beckett, Maimonides Medical Center, USA
- Zachary Johnson, Cohen Childrens Hospital Northwell, USA

#### ABSTRACT

**Background:** Not infrequently, healthcare providers are subject to patient or family biases, even racism. As part of professionalism training they need to learn how to master their emotional impact and optimize effectiveness of such challenging clinical encounters. OSCEs provide unique opportunities to simulate difficult clinical situations and help learners develop effective strategies through skills practice, feedback and reflection.

**Summary of Work:** The Pediatrics Residency Program at Maimonides Medical Center (Brooklyn, NY) developed a new OSCE station which addresses the management of biases expressed by patients. Although the core of the case scenario is standardized, the simulated patient adjusted specifics based on personalized triggers which were predetermined for each learner. The triggers focused on race, ethnic background, religion, sexual orientation or professional degree. If not relevant for residents themselves, triggers were related to significant others. This strategy standardizes the station's emotional impact.

**Summary of Results:** To evaluate this atypical station format, feedback was collected from learners, observing faculty and simulated patients in a variety of debriefing sessions. By all accounts this was a very difficult station for residents due to its personalized nature. Nonetheless they were able to learn from it as evidenced by written and verbal ratings and comments. The station was also difficult for faculty in whom it triggered memories of some difficult patient encounters they experienced themselves. Similarly, the simulated patients found the personalized nature of the station challenging. It was very important for them to be able to stress subsequently that the values expressed during the case enactment were not their own.

**Discussion and Conclusions:** There are many reasons why people develop biases. Whether conscious or unconscious, they can greatly interfere with human interactions and, in a medical setting, with clinical work. It is essential for health profession educators to create programs that allow learners to develop effective strategies for managing such personally and clinically challenging situations.

**Take-home Messages:** Personalized OSCE stations are difficult for all involved due to their emotional impact. Yet, they can provide unique opportunities to assure that learners come to terms with their own feelings when being the recipient of patient biases.

## #41 Short Communications - Assessment - OSCE 1

413 (142)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L2, Level 1

### SIMUportfolio: a platform for OSCE support

#### AUTHOR(S):

- **Martin Komenda, Masaryk University, Faculty of Medicine, Czech Republic (Presenter)**
- Matěj Karolyi, Masaryk University, Faculty of Medicine, Czech Republic
- Vojtěch Bulhart, Masaryk University, Faculty of Medicine, Czech Republic
- Petr Štourač, Masaryk University, Faculty of Medicine, Czech Republic

#### ABSTRACT

**Background:** Testing communication skills as well as the ability to react quickly and correctly to unpredictable patient behaviour is of key importance in the education of medical and healthcare study programmes. However, far from all forms of evaluation are suitable and effective for this very specific area. The Objective Structured Clinical Examination (OSCE) is nowadays the gold standard for the examination of clinical skills such as communication with the patient, history taking, physical examination, performing certain procedures, prescription, evaluation of X-ray images, reading ECG and many others. The complete process of OSCE implementation, however, is extremely demanding not only due to staffing, but also due to the administration of all necessary steps.

**Summary of Work:** SIMUportfolio is an entirely new and unique platform which, among others, provides a systematic support for OSCE in such a way that teachers involved can only concentrate on the fulfilment of requirements such as the selection of topics, preparation of stations, filling out the checklist, evaluation of examination etc. The process itself is completely arranged for by the SIMUportfolio, which in practice means that a deal of time is saved and that the management of OSCE is made easier overall.

**Summary of Results:** Over the years, the SIMUportfolio platform has been developed at the Faculty of Medicine of the Masaryk University in Brno (Czech Republic) as an all-in-one solution, which provides a comprehensive description of curriculum with links to guaranteed study materials (printed books as well as electronic multimedia tools, including virtual patients), interactive reporting of teaching contents and a special module dedicated to OSCE. The OSCE module itself covers the entire life cycle “from the definition of OSCE stations to setting up the roles of involved teachers, planning and location of examinations, online implementation including checklist fill-in, final evaluation and passing the results to students and observers.

**Discussion and Conclusions:** Apart from the technical solution, methodical background is an integral part of the SIMUportfolio platform. This background has been developed continually at the Faculty of Medicine of the Masaryk University, in cooperation with leading experts in OSCE from across European academic institutions.

**Take-home Messages:** SIMUportfolio platform to achieve an effective OSCE.

## #41 Short Communications - Assessment - OSCE 1

414 (2485)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room L2, Level 1

### Designing and implementing Objective Structured Clinical Examinations: a qualitative cross-national practice theory study

#### AUTHOR(S):

- Margaret Bearman, Deakin University, Australia (Presenter)
- Rola Ajjawi, Deakin University, Australia
- Sue Bennett, University of Wollongong, Australia
- David Boud, Deakin University, Australia

#### ABSTRACT

**Background:** The Objective Structured Clinical Examination (OSCE) holds a taken-for-granted place in the global medical education landscape. Despite extensive research, limited attention is paid to how OSCEs are implemented on-the-ground.

**Summary of Work:** Fifteen interviews were conducted with academics and administrators in three medical schools in the UK, Australia and Canada. The interviews focussed on their role in design and implementation of the OSCE. Analysis was framed by Schatzki's 'practice theory', which considers the people's activities as the foundation of society.

**Summary of Results:** The main practice of 'designing and implementing the OSCE overall' contained eight identified subpractices (eg 'designing an OSCE checklist' or 'grading the OSCE'). The most important roles were filled by academics and administrators, coordinating many other OSCE players (eg examiners, simulated patients, statisticians and so on). This design and implementation activity included many templates, spreadsheets, logistics lists and instructions. The interviewees were focussed on valid clinical assessment, using terms such as validity, evidence-informed, standards and standardised. At the same time, each local site adjusted to their particular medical school curriculum and healthcare systems. There was an immense amount of bureaucracy: committees, forms, procedures, employment procedures and double, sometimes triple, testing. However, actual practice was misaligned with ideal processes and 'work arounds' had to be employed to manage this.

**Discussion and Conclusions:** This study indicates that there are strong commonalities with OSCE design and implementation across the three nations. Local variations saw different design elements and processes, particularly in bureaucracies. The relationship with the healthcare system and the medical education community was stronger than an association with institutional processes.

**Take-home Messages:** There is a tension between the ideals of the OSCE and the local practices. The bureaucracies of the OSCE deserve further investigation.

## #41 Short Communications - Assessment - OSCE 1

415 (3288)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L2, Level 1

### Postgraduate Dental OSCE: An Enhanced and Improved Approach to Clinical Assessment of Small Cohorts of Postgraduate Paediatric Dental Clinicians

#### AUTHOR(S):

- Paula Lancaster, School of Dentistry, University of Leeds, UK (Presenter)
- Kate Kenny, School of Dentistry, University of Leeds, UK
- Jinous Tahmassebi, School of Dentistry, University of Leeds, UK
- Bernadette Drummond, School of Dentistry, University of Leeds, UK
- Michael Manogue, School of Dentistry, University of Leeds, UK
- Jennifer Hallam, School of Dentistry, University of Leeds, UK

#### ABSTRACT

**Background:** Objective Structured Clinical Examinations (OSCEs) in dentistry have been used as a key summative assessment within the School of Dentistry, University of Leeds, for undergraduate dental students since 1997. They sample a wide-range of clinical skills via a series of standardised stations and contemporaneously assess aspects of clinical competency against pre-defined criteria. Their use with small cohorts of postgraduates, rather than larger cohorts of undergraduates, has not been widely-reported.

**Summary of Work:** Ten active stations were developed for a cohort of five first-year postgraduate paediatric dental students who had no prior OSCE experience and with English as their second language. Station-design considered module learning outcomes for knowledge, clinical procedures, prevention and communication skills. Three professional simulated patients were used. Two circuits of five stations were run, with one rest-station in-between.

**Summary of Results:** The standard of the OSCE was established via Modified Angoff considering the borderline candidate with a final mean passing score of 56.9% which, with the addition of 1 SEM, gave an overall passing score of 60.6%. There was a wide-range of station difficulty (76.9%) and the variation in student scores was found to be due to station-level. Overall, reliability of the OSCE was very good (Cronbach Alpha = 0.83), with no single station detracting from the reliability.

**Discussion and Conclusions:** Examinee centred standard setting approaches (e.g., borderline regression) are generally viewed as inappropriate for small cohorts, but the application of test centred standard setting here has shown good reliability can be achieved with a small cohort. The OSCE promoted student engagement with assessment and they welcomed the controlled simulated environment. Feedback was exceptionally well-received and the results indicated communication skills and prevention were weak areas. This may reflect cultural differences and the challenge of communication with children.

**Take-home Messages:** The use of OSCE with small cohorts of students is a valuable summative assessment. Reliability was very good and the internal structure was aligned to module learning outcomes, contributing to validity of the OSCE. Constructive feedback on strengths and weaknesses enhanced the students' clinical skills for the long-term benefit of their patients.

## #41 Short Communications - Assessment - OSCE 1

416 (2361)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room L2, Level 1

### OSCE global and domain scoring - is there really a difference?

#### AUTHOR(S):

- Deborah O'Mara, Univeristy of Sydney Medical School, Australia (Presenter)
- Edward Abadir, Univeristy of Sydney Medical School, Australia

#### ABSTRACT

**Background:** The passing standard for our Objective Structured Clinical Examinations (OSCE) was changed from borderline group to domain marking three years ago. Each station is scored on three domains; Checklist criteria, Structure and presentation and Communication and patient interaction. Each domain is scored on a 5 point Likert scale from Very poor performance to Much better than Expected Standard. Checklist criteria are converting to this scale based on an apriori allocation.

**Summary of Work:** To evaluate the validity of the domain passing standard, particularly the Checklist criteria domain, a 7 point global score was introduced. The Year 1 and Year 2 OSCEs were marked using both the domain and borderline regression methods. The Year 1 exam is based in two attempts at a 6 station OSCE and Year 2 have one attempt at a 12 station OSCE.

**Summary of Results:** Borderline regression provided similar estimates of passing rates to the re-classification of the checklist into a domain scoring model for Year 1 ( $r=0.75$ ). The other two domains were also highly correlated with the global score; Year 1  $r=0.72$  for communication and patient interaction and 0.85 for structure and presentation. However, a borderline regression passing standard based on the checklist results and the global rating alone, would have resulted in a more lenient examination for Year 1, with a failure rate of only 1.2% compared to 7.3%. Furthermore, we found incongruent scoring between a specifically designed Communication OSCE and our Communication domain scores. Similar results were found for Year 2.

**Discussion and Conclusions:** This study found a large and significant correlation between two non-checklist domains and a global OSCE rating, suggesting that one is driving the other and questioning the degree to which the domains can be separated reliably. Furthermore, the incongruence between the checklist and communication domain result for a Communication OSCE raises concerns about the validity of domain scoring. Domain scoring and borderline regression provided complimentary information that should be used together to make high stakes decisions about passing standards.

**Take-home Messages:** Introducing a global score provided evidence for evaluating examiner behaviour as well as improving assessment accuracy.



## #4J Short Communications - Ethics

4J1 (2390)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.31-32, Level 0

### The role of the clinical environment in shaping medical students' moral development

#### AUTHOR(S):

- Iman Hegazi, Western Sydney University, Australia (Presenter)
- Jenny McDonald, Western Sydney University, Australia
- Jane Graves, Western Sydney University, Australia
- Neeshaan Abrahams, Western Sydney University, Australia
- Ryan Thorneycroft, Western Sydney University, Australia

#### ABSTRACT

**Background:** It is generally accepted that most students start medical school idealistically, yet often walk out cold and aloof. Studies have shown that moral development does not occur during medical education and that it, in fact, may plateau or even regress. There is no empirical evidence as to the cause other than that the slowing or regression is coincident with medical students' exposure to the clinical setting. The investigation of medical students' moral judgement remains under-explored and driven largely by a handful of scholars. This, confounded by a recent spate of suicides by junior doctors in Australia and other parts of the world, raises the question: what happens to students during medical school?

**Summary of Work:** To explore factors contributing to the preservation, regression, and segmentation of moral development during the clinical years of medical training, the authors carried out a qualitative study of medical students' experiences and insights in the clinical setting. Students' experiences, relationships with staff and patients, their personal responses and systems of coping and their interpretations of moral regression or plateauing was analysed.

**Summary of Results:** Focus group discussions and interviews showed that many students were confused by what they witnessed, engaged in unethical conduct, felt powerless to challenge authority, and believed that their moral judgement had declined. Students attributed lapses in moral judgement to the clinical environment, where the hierarchical structure, bad role modelling, and fear of not fitting into a team were commonly cited.

**Discussion and Conclusions:** Understanding the factors that promote, impede or segment moral development in medical students will allow improved strategies for student education, orientation and support and will encourage evidence-based strategies for faculty development of hospital clinicians and staff to improve hospital culture and student experience.

**Take-home Messages:** More research is needed to understand how medical students reconcile and rationalise their lapses in moral judgement, and what kind of emotional impact this has on their personal and professional lives. Understanding this may provide some insight into how medical students can be better supported, and how medical schools and hospitals can be reformed to foster moral and ethical growth.

## #4J Short Communications - Ethics

4J2 (687)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.31-32, Level 0

### “I found myself a despicable being!”: medical students’ emotional responses to moral dilemmas

#### AUTHOR(S):

- **Diego Ribeiro, Campinas State University, Brazil (Presenter)**
- Marcos Costa, University of Groningen, The Netherlands
- Esther Helmich, University of Groningen, The Netherlands
- Marco Antonio Carvalho-Filho, University of Groningen, The Netherlands

#### ABSTRACT

**Background:** Medical students struggle to deal with moral dilemmas during clinical rotations. A moral dilemma consists of a situation in which two or more moral values conflict and the available choices support mutually inconsistent courses of action. Moral dilemmas trigger a moral reasoning process, resulting in different emotional reactions that may lead to moral distress. We sought to explore the nature of medical students’ moral dilemmas, their emotional reactions, and how those experiences influence their professional development.

**Summary of Work:** Thirteen final year medical students made a rich picture regarding a moral dilemma they faced during their clinical training. Rich Pictures are visual tools used in combination with interviews to enhance data collection by capturing the ‘hard-to-put-into-words.’ The authors analyzed the drawings and interviews through thematic analysis.

**Summary of Results:** Moral dilemmas arose in different clinical contexts and involved the need to deal with conflicting moral values from the patient, their families, the health professional team, the supervisor and themselves, often leading to a conflict of internal moral values, and challenges with understanding the best course of action. Students engaged in a moral reasoning process that evoked different emotional reactions. When students’ moralities were not aligned with the moral decision, students experienced moral distress accompanied by emotions like anger or frustration. When students’ moralities were aligned with the moral decision, students experienced positive emotions such as proud or courage. Although some experiences had happened more than one year before the interviews, students were still struggling to make sense of them and stated that those experiences were very influential in their process of becoming a doctor, particularly in helping them to understand that medicine demands for a professional and often personal commitment with a set of values and beliefs.

**Discussion and Conclusions:** Moral dilemmas trigger intense emotional reactions with significant impact on current and future professional behavior. Reflecting on the process of aligning personal and professional values around a real moral dilemma may be a powerful pedagogic strategy to scaffold professional identity development.

**Take-home Messages:** Clinical ethics training should address moral dilemmas faced by students when transitioning to clinical practice.

## #4J Short Communications - Ethics

4J3 (2771)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.31-32, Level 0

### Just-in-time learning (JiT) of bioethics: Experiences and lessons learnt

#### AUTHOR(S):

- Kulsoom Ghias, Aga Khan University, Pakistan (Presenter)
- Azra Naseem, Aga Khan University, Pakistan
- Sohail Bawani, Aga Khan University, Pakistan
- Sameer Nizamuddin, Aga Khan University, Pakistan
- Kausar S. Khan, Aga Khan University, Pakistan
- Tashfeen Ahmad, Aga Khan University, Pakistan

#### ABSTRACT

**Background:** We designed EthAKUL, a mobile JiTL environment for bioethics for medical/nursing students, trainees and practitioners at Aga Khan University Pakistan, as a three-phased R&D study using participatory design methods. EthAKUL includes modules on selected clinical ethics concepts and a discussion forum ('Let's Talk') for participant-identified ethical dilemmas. The concept underlying EthAKUL and findings from the design/development phase were presented at AMEE 2017 and 2018, respectively. The initial findings from the second phase, i.e. facilitation of learning, are shared here.

**Summary of Work:** Sixteen facilitators were identified from a variety of medical/nursing specialities. Seventy-one students and trainees volunteered. Both groups were oriented to the learning environment and pedagogy in separate face-to-face workshops. An on-call schedule was created to ensure the availability of two facilitators on any given day for just-in-time discussion. Weekly reminders were sent to participants to post or respond to ethical dilemmas. A follow-up meeting was conducted with learners ~8-10 weeks after EthAKUL was launched to gauge their experiences. A WhatsApp group was used for discussion amongst facilitators.

**Summary of Results:** Between November 2018-January 2019, 22 ethical dilemmas were posted by learners (n=12) and facilitators (n=3) on 'Let's Talk'. Response rates to individual posts ranged from 0-23. Of the 16 facilitators, 10 posted on 'Let's Talk'. When facilitators could not respond during their 'call' period, other facilitators covered for them. The dilemmas varied from the clinical ethics modules.

**Discussion and Conclusions:** EthAKUL provided access to materials and a space for anonymous discussion of ethical dilemmas faced by students/trainees, yet a limited number of participants posted on 'Let's Talk'. Majority of posts came during the work-week, likely as and when dilemmas were encountered. While facilitators encouraged open discussion, learners expected closure or concrete next steps.

**Take-home Messages:** EthAKUL has a potential for JiTL of bioethics and other subjects, but both facilitators and learners need to be more attuned and responsive to the pedagogy. Learners need support on identifying ethical dilemmas, and facilitators need training on facilitating text-based JiTL.

## #4J Short Communications - Ethics

### 4J4 (965)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.31-32, Level 0

### Do pharmacy and medical students share the same views on telling the truth?

#### AUTHOR(S):

- Lorraine Corfield, Keele University, UK (Presenter)
- Ian Smith, Keele University, UK
- Matthew Stibbs, Keele University, UK
- Maria Allinson, Keele University, UK

#### ABSTRACT

**Background:** The requirement for health-care professionals (HCPs) to tell the truth is articulated in the guidance of UK professional bodies. This study explores undergraduate healthcare students' views on truth telling.

**Summary of Work:** Fourth year medical and third year pharmacy students undertook an interprofessional on-line ethics exercise. They were faced with the dilemma of whether to tell the truth to parents about the distressing death of their daughter. After the exercise students were asked their views on truth-telling. Ethical approval for the study was obtained.

**Summary of Results:** 67 medical students and 90 pharmacy students completed the questionnaire (response rate 69%). Key results include: Should HCPs always tell truth to patients? Medical students yes 66 (98.5%) vs pharmacy students 64 (71%) Should HCPs always tell truth to relatives? Medics yes 49 (73%) vs pharmacists 40 (55%) Should HCPs always answer patients' questions honestly? Medics yes 65 (97%) vs pharmacists 76 (85%) There was a significant difference between all 3 pharmacy and medical student answers ( $p < 0.05$ ). The medical students almost universally stated they would tell the truth to patients. 30% of pharmacy students felt that it is acceptable to withhold the truth in some situations. The medical students commonly gave the importance of maintaining trust as key, with professional duty being the next most commonly given reason for telling the truth. The pharmacists most frequently cited patient rights as a reason the tell the truth, with following professional standards being the next most common reason. Pharmacy students who would not always tell the truth usually gave concerns about doing more harm than good as their reason.

**Discussion and Conclusions:** Most pharmacy and medical students would tell the truth to patients. However, many more pharmacy students than medical students stated they would withhold the truth on occasion. The difference was seen despite discussing truth-telling in an on-line interprofessional exercise.

**Take-home Messages:** There is a difference between pharmacy and medical student approaches to truth-telling. This supports the importance of interprofessional learning as a method of challenging and sharing views.

## #4J Short Communications - Ethics

### 4J5 (2601)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.31-32, Level 0

### Changing Paradigms of Medical Education in Pakistan

#### AUTHOR(S):

- Sarosh Saleem, Shalamar Medical & Dental College, Pakistan (Presenter)
- Nida Shamsi, The Indus Hospital, Pakistan
- Fajar Raza, Shalamar Medical & Dental College, Pakistan

#### ABSTRACT

**Background:** The pressing need for familiarity with the ethical dimensions of health care is acknowledged worldwide. In Pakistan, medical ethics education is still in its infancy but a few efforts are pushing towards a slow but positive change in paradigms. While ethics was previously taught passively, through doctor-patient observation, a few training programs in Ethics have been introduced. However, these programs have not kept pace with the growing need of bioethics training in Pakistan. Pakistan Medical and Dental Council has advised that Bioethics be taught to medical students but has not made it a mandatory subject. Hence, there still remains a dearth of trained professionals and organized training of medical ethics in Pakistan.

**Summary of Work:** Pakistan has a unique social, political and cultural context and interpreting and implementing core ethical values within this local context, is a big challenge. It is imperative that the curricula and protocols be tailored according to the local socio-cultural milieu. The Bioethics Department at Shalamar Medical and Dental College, Lahore-Pakistan is the only department in Pakistan that has adapted the core curriculum of UNESCO International Network of Bioethics, for training of all healthcare professionals. The interactive workshops and lectures use local clinical and ethical dilemmas. The teaching methodologies used include moral games, role plays, film viewings, photography competitions and interactive quizzes.

**Summary of Results:** A preliminary review of feedback suggests that most of the medical students and post-graduate trainees have found Bioethics sessions to be engaging, fun and necessary.

**Discussion and Conclusions:** We hope that this initiative would serve as the first step of a long journey towards creating an integrated curriculum of ethics and professionalism in Pakistan. The overall aim is to develop professionals who are not just clinically sound, but are compassionate, morally and culturally sensitive, and who will create an environment that enhances the experiences of the patients and their families.

**Take-home Messages:** Education of Bioethics and Professionalism, attuned to socio-cultural context is crucial for healthcare providers. Innovative and engaging methodologies play an important role in value clarification, critical thinking and moral reasoning.



## #4K Short Communications Curriculum - Social Accountability

### 4K1 (1308)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.14, Level 0

### A review of social accountability policy: Implications for health care training

#### AUTHOR(S):

- **Cassandra Barber, Maastricht University, Canada (Presenter)**
- Jimmie Leppink, University of York, UK
- Cees van der Vleuten, Maastricht University, The Netherlands
- Saad Chahine, Western University, Canada

#### ABSTRACT

**Background:** Accountability is central to medical education. While many schools strive to be responsive to the communities they serve, measuring social accountability (SA) remains a global struggle. Although various frameworks have been established to assist programs evaluate SA, their descriptions remain predominately conceptual in nature. No single document describes common and unique elements or identifies a set of indicators that extend across SA frameworks in medical education. Using context-inputs-process-products (CIPP) evaluation model as an organizational framework, this paper synthesized key elements in SA frameworks as an initial step to develop measurable indicators intended to facilitate the evaluation of SA in medical training.

**Summary of Work:** Thematic analysis was used to describe and compare common and unique elements across large-scale, public SA policy frameworks. These elements were then thematically coded using four dimensions of CIPP model. Sub-policies and/or program/institution specific documents were excluded from the analysis as they build upon previous frameworks and may lack generalizability.

**Summary of Results:** Of an initial sample of 25 documents, four key SA policy frameworks were included in the analyses. Emerging themes highlighted across frameworks and CIPP dimensions included core SA values (relevance quality; effectiveness and equity). These values were expected to be displayed across the training continuum in education, research and service activities. Sub-themes under each dimension included: context (public displays of institutional goals/mandates, collaborative partnerships with health systems); inputs (identification of community health needs, diversity); processes (curricular activities/reform/exposure); products (mix and distribution of graduates, quality assurance/program evaluation/accreditation) and impacts on public health (reduction of disease/mortality).

**Discussion and Conclusions:** This paper provides a thematic analysis and synthesis of key SA frameworks using CIPP to identify a set of performance indicators. Findings from our analysis revealed major themes consistent to the broader SA literature. The analysis and results of this paper provide tangible indicators that may be used as a guide for programs to evaluate SA, linking educational inputs and outputs.

**Take-home Messages:** SA is on the radar of all learning institutions. This paper provides a set of indicators to begin measuring the extent to which institutions are socially accountable. The indicators represented have the potential to support learning institutions interested in evaluating their practices for formative purposes.

## #4K Short Communications Curriculum - Social Accountability

### 4K2 (840)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.14, Level 0

### Building a student-driven community-based educational program dedicated to social responsibility

#### AUTHOR(S):

- Edouard Leaune, Lyon-Est School of Medicine, Claude Bernard Lyon I University, France (Presenter)
- Violette Rey-Cadilhac, Lyon-Est School of Medicine, Claude Bernard Lyon I University, France
- Safwan Oufker, Lyon-Est School of Medicine, Claude Bernard Lyon I University, France
- Caroline Tilikete, Lyon-Est School of Medicine, Claude Bernard Lyon I University, France
- Yves Zerbib, Lyon-Est School of Medicine, Claude Bernard Lyon I University, France
- Gilles Rode, Lyon-Est School of Medicine, Claude Bernard Lyon I University, France

#### ABSTRACT

**Background:** Attitudes are an important part of medical students competencies. However, medical education has been shown to negatively influence student attitudes toward certain types of patient population, notably the underserved. Building educational programs dedicated to social responsibility during medical education is thus critical in order to improve the attitudes of medical students toward the underserved. Previous studies identified that translating medical school social missions to student experience needs innovative and original educational practices to be fully efficient.

**Summary of Work:** A new educational program dedicated to social responsibility has been created in September 2018 in the Lyon-Est School of Medicine, France. Based on community-based and experiential learning (35-hours training in charities dedicated to the underserved), this student-driven program aims to improve second-year medical students attitudes toward the underserved and to improve their awareness toward social issues in medicine and global health. The originality of the program is based on the concepts of experiential and narrative learning, with medical students participating in the program writing the narratives of meetings with men or women they will meet during their training in the community.

**Summary of Results:** A total of 65 medical students are freely participating in the program. We propose to present at the AMEE congress the process of the book redaction compiling the narratives. Some particularly remarkable narratives written by student will also be presented. The satisfaction and experiences of students will also be reported.

**Discussion and Conclusions:** Building innovative educational programs dedicated to social responsibility during medical education is critical in order to avoid negative attitudes toward the underserved in medical students. We propose to describe the building of a student-driven community-based program newly created in Lyon. Narrative and experiential learning are used to propose an innovative and original approach to teach social responsibility to medical students.

**Take-home Messages:** Medical education has been shown to negatively influence student attitudes toward the underserved. Building innovative and original educational student-driven community-based program dedicated to social responsibility during medical education is critical. Students participating in the program will write the narratives of meetings with men or women they will meet during their training in the community.

## #4K Short Communications Curriculum - Social Accountability

### 4K3 (1147)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.14, Level 0

### Professionalism to connect the student with the curriculum and healthcare society

#### AUTHOR(S):

- **Annelies van Ede, Radboud University Medical Center, the Netherlands (Presenter)**
- Wim Gorgels, Radboud University Medical Center, the Netherlands
- Rob Reuzel, Department for Health Evidence Radboud University, the Netherlands
- Merel van Gils, Radboudumc Health Academy, the Netherlands
- Suzanne Heemskerk, Department for Pharmacology-Toxicology Radboud University, the Netherlands
- Petra van Gurp, Radboud University Medical Center, the Netherlands

#### ABSTRACT

**Background:** In 2015 we started an extensively revised curriculum Medicine (MED) and Biomedical Sciences (BMS). The leading principles include an active, collaborating, self-directed role of students in a meaningful practice based and patient centred environment in which they develop to life-long learners. In this curriculum we started a generic longitudinal educational line 'professionalism' in all three MED and BMS bachelor years.

**Summary of Work:** All students are assigned to coaching groups (8-9 students each) and a personal coach. There are student group meetings and individual sessions at least 8 times a year each. The program gives attention to learning strategies, learning in collaboration, interpersonal skills, formulating learning goals, reflection on patient contacts, giving and receiving narrative feedback, discussions about current events, vocational orientation and individual, personal professional awareness and development. For assessment students show part of their E-portfolio, including written essays about their personal development supported by feedback from peers, patients and faculty.

**Summary of Results:** Yearly, students and coaches evaluate the elements of the educational line professionalism. The results show the appreciation of the small fixed groups for their open and safe environment (students 88%, coaches 95%); the program provides tools to get used to academic skills, peer assisted learning and collaboration; students explicitly perform personal strength and weakness analysis and reflections. Students feel stimulated to take responsibility for their own learning trajectory (students 70%, coaches 92%) and to formulate personal learning goals (students 65%, coaches 85%). During the bachelor students are willing and capable to take more initiative and responsibility for the programme. Students report the desire to discuss more about current events in health care and practical show cases related to professionalism. Patient contacts stimulate the learning process. The assessment of each students' personal development from the E-portfolio is time-consuming.

**Discussion and Conclusions:** Although the context differs, the educational line 'professionalism' is applicable for students MED and BMS to develop skills necessary to face the future challenges of the ever growing complexity of health care and become vigorous, innovative and life-long learners. It strongly facilitates embedding activities with the other learning activities, patient-contacts and actual health issues.

**Take-home Messages:** Educational line 'professionalism': essential part of every curriculum.

## #4K Short Communications Curriculum - Social Accountability

### 4K4 (2993)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.14, Level 0

### Social responsibility: Development of a blended learning community-based approach to health and social issues in the Hong Kong Community

#### AUTHOR(S):

- Carmen Wong, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Paul Lai, College of Surgeons of Hong Kong, Hong Kong
- Samuel Wong, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** The World Health Organisation (1995) emphasise the role of medical schools to direct their education towards addressing the priority health concerns of the community, region, and nation they serve.' Hong Kong is an international city with similar and differing health and social issues. There was a need to educate and expose students to different issues in the community.

**Summary of Work:** The Social Responsibility (SR) curriculum consisted of two compulsory courses: Health Inequalities and Health Needs Analysis and 8 self- direct learning course which included poverty and deprivation, poverty and social exclusion ethnic minorities, foreign domestic workers, asylum seekers and refugees, health and stigma (HIV and mental illnesses), offenders health and cultural competence. Students were attached to community clinics and NGO facilities and included: homeless, sex workers, HIV clinic, private clinics etc. Students were required to complete the e-learning, attachments, attend debrief and complete a reflective essay

**Summary of Results:** The course was rolled out in a modular iterative approach. There were 4 modules of 56-57 students (Total: n= 228 MS) in Community and Family Medicine module with the last module in 1 March 2019. Results will include the process of course development, as well as the students' responses on debrief, interested topics, pre and post test quiz and evaluation.

**Discussion and Conclusions:** Initial analysis show that this was a feasible course and was well received. Post test quiz show that students gained knowledge. Most attempted course included: poverty and social exclusion and foreign domestic maids. Some students expressed attachments were not 'in depth' enough, whilst expressed 'helplessness'. Further support is needed for students to dissect and discuss the different issues

**Take-home Messages:** Social Responsibility is a vast topic and encompass empathy, professionalism, ethics and health care roles and needs. An e-learning blended approach with debrief is a good introduction to stimulate student's interest and learning. An interdisciplinary and guided approach is suggested.

## #4K Short Communications Curriculum - Social Accountability

### 4K5 (2750)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.14, Level 0

### Stepwise development of a new blueprint focused on the population's needs for good medical care

#### AUTHOR(S):

- Birgitta Kütting, The German National Institute for State examinations in Medicine, Pharmacy and Psychotherapy (IMPP), Germany (Presenter)
- Volker Schillings, The German National Institute for State examinations in Medicine, Pharmacy and Psychotherapy (IMPP), Germany
- Martin Hendelmeier, The German National Institute for State examinations in Medicine, Pharmacy and Psychotherapy (IMPP), Germany
- Maryna Gornostayeva Gornostayeva, The German National Institute for State examinations in Medicine, Pharmacy and Psychotherapy (IMPP), Germany
- Jana Jünger, The German National Institute for State examinations in Medicine, Pharmacy and Psychotherapy (IMPP), Germany

#### ABSTRACT

**Background:** The ongoing academic reform of the undergraduate medical program in Germany requires a reorientation of the curriculum and the corresponding steps of the medical licensing exam. Instead of assessing facts there will be a constant shift to assess competencies relevant for doctors' everyday clinical-practical work. Therefore, the 2nd part of the reformed medical licensing exam should be focused on population's needs for good medical care. The particular challenge will be to develop a blueprint that meets the current licensing regulations but at the same time meets all future requirements. The contribution is aimed at describing the steps needed for developing a competency-based blueprint increasing content validity and representativeness.

**Summary of Work:** In several workshops with health care professionals representing all disciplines and sectors of medical care in Germany a new structure for revising the IMPP-GK, a learning objective catalogue legally binding for German state examinations, was developed and accepted. The structure of the catalogue was integrated in a multidimensional blueprint, including the CanMED roles for physicians, organ systems, occasions for consultations, entrustable professional activities and a modified Bloom's taxonomy. A multidimensional classification system for items, developed two years ago, was used for analyzing the baseline situation. A total of 960 items of three recent exams was reclassified and the amount of items was evaluated for each dimension and category being similar to the integrated blueprint of the structure for the new catalogue of learning objectives

**Summary of Results:** The evaluation of past examinations according to the multidimensional blueprint indicated that the population's needs for good medical care is only partially considered. The amount of items addressing fact based knowledge, which is easily researchable or focusing on aspects being to specific was striking.

**Discussion and Conclusions:** Based on these findings the blueprint will be adapted and checked for plausibility by data from health service research.

**Take-home Messages:** Creating a feedback loop between the blueprint for medical licensing exams and data from health service research is a very helpful tool for the conception of medical licensing exam.



## #4K Short Communications Curriculum - Social Accountability

### 4K6 (2665)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 0.14, Level 0

### The development of social responsibility of medical postgraduate students

#### AUTHOR(S):

- Liudmila Kovalenko, Surgut State University, Russia (Presenter)
- Elena Kovalenko, Surgut State University, Russia
- Anton Vorobev, Surgut State University, Russia

#### ABSTRACT

**Background:** In modern society, there is an increase in expectations for a high level of professional training of the doctor and his social responsibility. The resident, communicating with patients, should solve not only clinical problems but also effectively interact with the patients relatives, colleagues, insurance and legal organizations.

**Summary of Work:** The subject of the research was the study of the conditions of social responsibility development in medical University residents, the definition of criteria and diagnostic methods. Social responsibility was assessed at cognitive, motivational and activity levels. 325 residents of different specialties took part in the work. During the empirical stage of the experiment the levels of social and moral-ethical responsibility, social intelligence, normative behavior, and self-control of residents were diagnosed. At the forming stage, the criteria of the efficiency of the new are defined.

**Summary of Results:** Development of social responsibility of residents in medical University provides the following pedagogical conditions: organization of the process of training of residents; development and implementation of a new curriculum, the model of relationships in the system doctor-patient, the social responsibility of the doctor, communication as a socio-psychological process, barriers to communication and management of conflict interaction; creating an educational environment through the inclusion of residents in social design, social and psychological diagnosis and the formation of a psychological portrait of the resident.

**Discussion and Conclusions:** The study reveals the essence of the concept of social responsibility, defines the structure of social responsibility, methodological approaches, presents the implementation of pedagogical conditions necessary for the development of social responsibility of residents, analysis of the results and dynamics of development of social responsibility of residents in the course of experimental work. During the implementation of pedagogical conditions the level of knowledge about social responsibility increased by 52.6%. At the same time, the level of social responsibility has increased also.

**Take-home Messages:** To solve this problem, special pedagogical conditions for the development of social responsibility of residents should be developed.

## #4L Short Communications - Career Choice

### 4L1 (2700)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L7, Level 1

### Career orientations of medical students: a Q-methodology study

#### AUTHOR(S):

- **Matthijs de Hoog, Erasmus MC-Sophia, the Netherlands (Presenter)**
- Karen Stegers-Jager, Erasmus MC, the Netherlands
- Job van Exel, Erasmus University, the Netherlands
- Lia Fluit, Radboud UMC, the Netherlands
- Jacqueline de Graaf, Radboud UMC, the Netherlands
- Lokke Gennissen, Erasmus MC, the Netherlands

#### ABSTRACT

**Background:** A balanced workforce is crucial in pursuing optimal health care. Yet, many countries are facing a misalignment of specialty preferences of their medical students and societal needs regarding future medical workforce. As a first step to bridge this gap a better understanding of the medical career choice processes is needed. In this study we explored the career orientations among Dutch medical students and their implications for future career choices.

**Summary of Work:** We explored career orientations of medical students using a Q-methodology, a hybrid qualitative-quantitative method. Medical students of two Dutch universities, varying in year of progression of medical school, ranked 62 statements with regard to importance for their future career choice. Afterwards, participants explained their ranking in an interview and completed a questionnaire regarding demographics. We used a by-person factor analysis to identify groups of individuals with similar orientations.

**Summary of Results:** Twenty-four students rankordered the statements. Three distinct orientations towards future careers could be identified. The first stresses lifelong self-development; the second has more emphasis on work-life balance, and the third that was more concerned with achievement and recognition of their work.

**Discussion and Conclusions:** The identified career orientations of Dutch medical students' differed in the importance of challenge, work-life balance, and need for recognition. These insights can help us to design interventions to shift career choices of medical students closer towards future needs in society.

**Take-home Messages:** Offering career coaching to students, using a tool that challenges them to explore and prioritize their values, needs and motivations, similar to Q-sort, and thereafter stimulating them to consider specialties accordingly, could be a promising strategy for guiding students to more long-term satisfying careers.

## #4L Short Communications - Career Choice

### 4L2 (1799)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L7, Level 1

### An early exposure to general practice for second year medical students: how does it change their perception on primary care?

#### AUTHOR(S):

- Juliette Macabrey, Faculty of Medicine Lyon Est, CUMG, France (Presenter)
- Lucile Wahl, Faculty of Medicine Lyon Est, CUMG, France
- Sofia Perrotin, Faculty of Medicine Lyon Est, CUMG, France
- Sophie Pelloux, Faculty of Medicine Lyon Est, CUMG, France
- Yves Zerbib, Faculty of Medicine Lyon Est, CUMG, France
- Gilles Rode, Faculty of Medicine Lyon Est, France

#### ABSTRACT

**Background:** General Practitioners (GPs) are a cornerstone of the French health care system. At any given time, 113 out of 1,000 patients will consult a GP when one patient out of 1,000 is admitted to a university hospital (White's square by Green). However, French medical students in their 2nd to 6th year complete only one rotation in general practice to familiarize themselves with primary care. Second year Lyon Est medical students who began medical school in 2017 attended a GP rotation consisting of 5 half-days. How does this early exposure to primary care change students' perception of this category of medical care?

**Summary of Work:** In 2018-2019, half of the second year students attended the September GP rotation, the other half will do so in May. A semantic differential questionnaire was developed for this study. Before and after the September rotation each student received this questionnaire online and was asked to anonymously respond to it to describe their own perception of GP medical care. The same questionnaire will be provided after May, and data from the three questionnaires will then be compared.

**Summary of Results:** 217 students attended the September rotation, and 185 will attend the May rotation. 284 of these students answered the pre-rotation questionnaire and 273 filled in the second questionnaire between October 5th and January 22nd. The final questionnaire will be sent out at the end of May. With this first insight into primary care, we expect changes in students' perception of GPs, resulting in a more accurate understanding of the GP's role.

**Discussion and Conclusions:** French students are asking for exposure to primary care to better understand its importance and contribution to medical care as a whole. An early rotation, at the very beginning of their medical studies may help them understand a crucial French public health issue: the role of GPs in the health care system. It may help them adapt and adjust their own learning while pursuing their studies and, later, in practicing medicine.

**Take-home Messages:** Early exposure to primary care through interaction with GPs can help medical students better understand primary care issues.

## #4L Short Communications - Career Choice

### 4L3 (659)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L7, Level 1

### Medical students' expectations of the future

#### AUTHOR(S):

- **Marjo Wijnen-Meijer, TUM Medical Education Center, TUM School of Medicine, Technical University of Munich, Germany (Presenter)**
- Alison Ledger, University of Leeds, UK
- Constantina Constantinou, University of Nicosia Medical School, Cyprus
- Mini Ruiz, Karolinska University Hospital, Sweden
- Jacqueline Van Wijngaarden, University Medical Center Utrecht, the Netherlands

#### ABSTRACT

**Background:** All medical students have expectations of their future profession as a doctor. These expectations may be affected by various factors, such as labour market circumstances and experiences during medical school. The aim of this multi-site study is to gain insight into students' expectations and the contextual factors which shape them.

**Summary of Work:** Year 1 medical students from three medical schools (1. Leeds, UK, 2. Utrecht, Netherlands, and 3. Nicosia, Cyprus) are asked the following questions (via a questionnaire or reflective task): 1. Why do you want to be a doctor? 2. What are your expectations of your future profession as a doctor? 3. What do you look forward to in your future profession as a doctor? 4. What do you not look forward to? Each school is also logging internal and external contextual changes, to consider their influence on students' expectations. This paper will report findings from the initial round of data collection in 2017. Responses were coded line by line in an open coding process, followed by axial coding to identify main themes.

**Summary of Results:** Despite coming from different countries, the answers from the students are very similar. They are motivated to become doctors because they want to help people and are interested in the human body. They expect that it will be a tough but rewarding job, which will require lifelong learning. They look forward to interacting with patients and seeing patients leave the hospital healthier than before. They are worried about the work-life balance and having 'someone's life in your hands'. Death and breaking bad news are particular aspects of the job they anticipate will be challenging.

**Discussion and Conclusions:** This study offers exciting potential in comparing students' expectations in different countries, at different points in time and between cohorts. Findings regarding contextual influences can be used to improve curricula and student guidance, to ensure that expectations reflect the realities of current clinical practice.

**Take-home Messages:** Students expect medical work to be both rewarding and challenging. Medical educators need to understand students' expectations, so they can support their transition to practice.

## #4L Short Communications - Career Choice

### 4L4 (353)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room L7, Level 1

### Physician-Scientist or Physician Science? Research-Active Clinicians' Narratives of Research Success

#### AUTHOR(S):

- Anna Cianciolo, Southern Illinois University School of Medicine, USA (Presenter)
- Jordon Mitzelfelt, Southern Illinois University School of Medicine, USA
- Allen Ghareeb, Southern Illinois University School of Medicine, USA

#### ABSTRACT

**Background:** Worldwide, the number of physician-scientists, clinicians who devote the majority of their time to funded biomedical research, is declining. Barriers to research-service balance include training gaps, inadequate mentorship, clinical work demands, and increasing competition. Interventions focus on generative strategies, e.g., training pipelines, placing less emphasis on examining the personal and systemic factors that shape physicians' careers post-training. Exploring how faculty who remain engaged in research, despite barriers, conceptualize research success may enable more adaptive approaches to research-service balance.

**Summary of Work:** This appreciative inquiry was conducted with research-active clinicians at a teaching-intensive, community-based medical school. A medical education faculty member conducted one-on-one interviews with a convenience sample of 12 participants nominated by peers as active researchers. Interviews sought stories of how participants became involved in research, a time when they felt successful, a time when they felt unsuccessful, and their perceptions of others' expectations for their success. Audio-recordings were transcribed verbatim and analyzed thematically by the research team: the interviewer and two senior medical students engaged in medical education scholarship. Participants' curriculum vitae were examined to augment the thematic analysis.

**Summary of Results:** Participants' research engagement was diverse, including laboratory studies, clinical trials, and medical device development, and it evolved with changes in professional context. Participants' origin stories depicted strong intrinsic motivation and deepened participation in research stimulated by role models, collaborators, and institutional support. Success stories emphasized generating novel ideas, pursuing them to dissemination, and improving clinical practice. Stories of feeling unsuccessful emphasized failed grant proposals. Perceptions of others' expectations for success comprised scholarly productivity metrics typical of full-time researchers. Success stories did not reference these metrics, but stories of feeling unsuccessful did.

**Discussion and Conclusions:** The appeal of physician-scientists assumes that clinicians' direct involvement in medical care allows them to pursue high-yield research questions. However, participants' success narratives reflected a tension between meeting conventional scholarly productivity metrics and improving patient care. The physician-scientist concept, emphasizing metrics, may devalue the impact of research-active clinicians with divergent models of success.

**Take-home Messages:** Promoting 'physician science' - institutionally supported communities of research-active clinicians aimed at improving health outcomes - may better accommodate the research-service tradeoff and energize clinicians' special capacity to enhance healthcare.



## #4L Short Communications - Career Choice

### 4L5 (719)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L7, Level 1

### Identifying the factors that influence foundation programme doctors' choice of career specialties, and where does paediatrics fit?

#### AUTHOR(S):

- Sarah Scales, Newcastle University, UK (Presenter)

#### ABSTRACT

**Background:** Modern medical training involves specialisation and early career choices. Concerns around fewer numbers of junior doctors applying for specialty posts, such as paediatrics, has implications for delivery of quality care. Social learning theory has previously been used to identify how people make important life decisions.

**Summary of Work:** A multimethod sequential design study was used. Initial interviews, using the repertory grid technique, were conducted to create a questionnaire which was distributed to all foundation year 2 (F2) doctors within the North East and Cumbria region. Finally, semi-structured interviews were conducted with F2s to determine the influences on their career choices.

**Summary of Results:** Repertory grid results highlighted the key categories where specialties differ, as well as ideal categories which were well represented in paediatrics. Less than half (47%) of F2 doctors intended to go straight into specialty training posts. Many planned locum/trust posts, travel or moving abroad as they did not feel ready to make a career choice. The most popular specialty choices were general practice and core medical training programmes; paediatrics was 6th in popularity. A model of career choice emerged from the interview data, demonstrating a longitudinal decision making process and four points of influence: pre-university; during medical school; during foundation training; and at the point of application to specialty training programmes. There was a general sense of pressure to make the right choice: worries about the working environment, an assumption of difficulty to change their careers and not having sufficient knowledge to make a decision were all significant influences on career choice.

**Discussion and Conclusions:** This data demonstrates that the early working careers of junior doctors provide the most useful information on specialty career options and the complexity of influences in the process of medical career choices. The literature<sup>2</sup> focuses on student experiences of different specialties, identifying that role models, perceived work-life balance and geographical location were important factors in career selection.

**Take-home Messages:** The process of specialty career choices are complex, but demonstrate a developmental timeline, which allows for consideration of tailored interventions appropriate to different stages. Through better understanding of the process of specialty career decisions, the imbalances in the specialty workforce may be potentially rectified.

## #4M Short Communications - Student in Difficulty

### 4M1 (3090)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.94-95, Level 0

### Profile characterization of unsuccessful students

#### AUTHOR(S):

- Ana Marreiros, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal (Presenter)
- Ricardo Afonso, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal
- Isabel Palmeirim, Department of Biomedical Sciences and Medicine, University of Algarve/Algarve Biom, Portugal
- António Pêgas, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal
- Sandra Silva, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal
- Sofia Nunes, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal

#### ABSTRACT

**Background:** The Integrated Master of Medicine of the University of Algarve (MIM-UAAlg) is a 4-year course, open exclusively to persons who have already a Higher Education Degree (1st cycle) and it's a new medical curriculum based on PBL (Problem Based Learning). Students selection process for MIM-UAAlg consists: 1st phase - a set of cognitive skills tests (to evaluate the following aptitudes: numerical reasoning, verbal reasoning and abstract reasoning) and a proof of English language knowledge (level B1 of the Common European Framework of Reference for Languages). The 2nd phase consist of a set of 10 mini-multiple interviews (MME) or stations of 8 minutes each.

**Summary of Work:** The main objective of this study was to understand if students with the greatest academic failure are susceptible of differentiation, taking into account the main intrinsic variables of the individual and the results of the selection process. Methodologically, a 2-step clusters analysis was applied with the Schwarz Bayesian clusters criteria selecting as quantitative variables: Age, MME, General Cognitive Abilities and as categorical variables: Training area, gender and Failed. A non-parametric analysis of Kruskal Wallis was later performed to attest the mean differences in academic results by cluster.

**Summary of Results:** The cohorts from 2009 to 2018 were analyzed, which represents a total of  $n = 428$  (Female = 257 and Male = 171), whose multivariate analysis of the classification of individuals was able to differentiate 4 clusters of students, with the following distribution: Cluster1 = 49, Cluster2 = 120, Cluster3 = 93 and Cluster4 = 159. The variable failed was the one with the most discriminative power followed by: academic background, gender and age.

**Discussion and Conclusions:** The results showed that the knowledge-related (Personal Progress Index) and the skills lab (Objective Structured Clinical Examination) were the ones that presented the most statistically significant differences among the clusters of students. It has been verified that it is in the first years that these differences weigh more.

**Take-home Messages:** We believe that it might be possible to make an early failed student profile based, on a multivariate combinations composed with personal features (age and gender), selection results, academic background and the focus variable - Failed.

## #4M Short Communications - Student in Difficulty

### 4M2 (1757)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.94-95, Level 0

### The Cross-cultural Experience of Academic Difficulty and Remediation

#### AUTHOR(S):

- **Simone Watkins, The University of Auckland, New Zealand (Presenter)**
- Jill Yelder, The University of Auckland, New Zealand
- Samir Selaq, The University of Auckland, New Zealand
- Karen Dorrian, The University of Auckland, New Zealand
- Elana Curtis, The University of Auckland, New Zealand
- Warwick Bagg, The University of Auckland, New Zealand

#### ABSTRACT

**Background:** Quality remediation is integral in reducing the costs of underperforming medical students. Research indicates that certain cultural groups enter remediation programmes more frequently than their counterparts and these students are likely to continue to underperform. We report on the lived experience of three cultural groups' experiences of remediation.

**Summary of Work:** A qualitative study utilising semi-structured, face-to-face, one-on-one interviews (n = 14) was employed. Interviews explored student perceptions of academic difficulty, including their experience with remediation within the medical programme at the University of Auckland, New Zealand. Participants included indigenous Māori, Pacific and international students with previous academic difficulty. Participation was voluntary via a global email invitation to all undergraduate levels and transcripts were offered for member-checking. Data was transcribed word-for-word and content coded with thematic analysis. Secondary analysis confirmed emerging themes.

**Summary of Results:** Student experiences of academic difficulty appear to be shaped by external, institutional and psychological factors. Sub-themes included the immediate learning environment along with acculturative, financial, health-related and social stress. Acculturative stress occurred due to the students entering an environment different to their cultural backgrounds. Psychological factors included both the negative emotional experience of failure and stigmatisation and the positive resultant coping mechanisms.

**Discussion and Conclusions:** The major themes identified are in keeping with the current literature, including the impact of the hidden curriculum such as, prejudice, teaching by humiliation, and hierarchies. There were complex situations surrounding causation of academic difficulty, although remediation appeared to be a 'one size fits all' approach. Of significance to this study was the demonstration of student resilience. Tailored remedial programmes with early identification of at risk students are required. Future work needs to focus on modifying medical programmes' intrinsic biases and hidden curriculum alongside fostering student resilience.

**Take-home Messages:** Future remediation practices need to identify and support at risk students by employing a personalised, culturally appropriate process. A positive learning environment is essential to foster deep learning and student trust. Medical programmes need to work on reducing the stigma of failure and promote student resilience to alleviate the cost of academic difficulty for both the students and institution involved.

## #4M Short Communications - Student in Difficulty

### 4M3 (1550)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.94-95, Level 0

### Struggling with Strugglers: Using medical admission tests for improving educational practices

#### AUTHOR(S):

- Boaz Shulruf, UNSW, Sydney, Australia (Presenter)
- James Li, UNSW, Medicine, Australia
- Rachel Thompson, UNSW, Medicine, Australia

#### ABSTRACT

**Background:** Struggling medical students is an under-researched in medical education. It is known, however, that early identification is important for effective remediation. This work demonstrates how admission data can be used for identifying future struggling students leading to early intervention and minimising the risk of failure.

**Summary of Work:** Data comprise 700 students from the University of New South Wales undergraduate medical program. The main outcome of interest was whether these students struggled during this 6-year program; they were classified to be struggling if they had to repeat assessment. Discriminate Function Analysis (DFA) assessed whether their pre-admission academic achievement, Undergraduate Medicine Admission Test (UMAT) and interview scores had predictive effect regarding likelihood to struggle.

**Summary of Results:** A lower pre-admission academic achievement in the form of Australian Tertiary Admission Rank (ATAR) or Grade Point Average (GPA) were found to be the best positive predictors of whether a student was likely to struggle. Lower UMAT and poorer interview scores were found to have a comparatively much smaller predictive effect.

**Discussion and Conclusions:** These results indicate that pre-admission academic achievement can be used to predict which students are likely to struggle in an Australian undergraduate medicine program. More importantly, it was identified that not all selection tools have the same impact. Thus, it is important to consider the predictability of each selection tool independently when identifying the potential strugglers as early as upon the commencement of the medical study. Noteworthy that early intervention based on selection tools is preferable over early intervention based on ethnicity or social background which may be perceived as discrimination.

**Take-home Messages:** Selection tools should be used for identifying strugglers among the admitted students. Selection tools provide critical information for implementing early intervention for potentially future strugglers Using selection tools for early intervention may avoid tagging potential strugglers by any particular socio-cultural background thus may increase student motivation and minimise perception of discrimination.

## #4M Short Communications - Student in Difficulty

### 4M4 (2890)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.94-95, Level 0

### Understanding Differential Attainment at Warwick Medical School (WMS), UK

#### AUTHOR(S):

- Olanrewaju Sorinola, University of Warwick, Warwick Medical School, UK (Presenter)
- Imogen Davies, University of Warwick, Warwick Medical School, UK
- Michelle Machado, University of Warwick, Warwick Medical School, UK
- Emily Reid, University of Warwick, Warwick Medical School, UK
- Nariell Morrison, University of Warwick, Warwick Medical School, UK

#### ABSTRACT

**Background:** Medical students from BME groups have poorer academic performance on average compared to their white peers. The BME attainment gap is widely thought to result from BME students' experiences of learning and there is evidence that interactions between students and teachers and between students and their peers critically affect learning outcomes. The GMC also emphasises the importance of equality and diversity. WMS is the largest graduate-entry medical school in the UK with students having already achieved 2nd class upper or 1st class in their undergraduate study. So why should BME students underperform?

**Summary of Work:** We collected quantitative data about admission, performance during the course and graduation across 5-8 year periods to have enough numbers for analysis according to each ethnic subgroups. We also collected qualitative data about BME student experience during the course from four focus groups and gathered data using semi-structured interviews in 2018. Thematic analysis of this data was done.

**Summary of Results:** Our data showed that white applicants 25% more likely than BME applicants to get an offer following the application and selection centre MMI process. BME students underperform during the course with less merit and distinctions awarded. Furthermore, no black students have graduated with honours over the last eight years. BME students in this study reported facing a range of difficulties throughout their graduate-entry medical training that they felt impeded their learning and performance: a. Relationships between staff and students and among students: including lack of representation and lack of understanding of cultural differences b. Institution and learning: including curricular, teaching and assessment practices c. Psychosocial and identity factors: including feelings of isolation, reduced self-confidence and low self-esteem that hindered their learning and performance.

**Discussion and Conclusions:** Despite recruiting students with proven achievement in their previous university degree(s), we still have an attainment gap at WMS. The data highlighted the areas to focus on and we have been working on these to remove the differential attainment and improve BME student experience.

**Take-home Messages:** As educators this is our gap not the students gap; we have a responsibility to prevent differential attainment in our students.



## #4M Short Communications - Student in Difficulty

### 4M5 (2239)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.94-95, Level 0

### Near-Peer academic coaching in Undergraduate Medical Education

#### AUTHOR(S):

- **Monica Garcia, Ross University School of Medicine, USA (Presenter)**
- Robert Byard, Ross University School of Medicine, USA
- Vijay Rajput, Ross University School of Medicine, USA

#### ABSTRACT

**Background:** Near-peer advising studies have demonstrated effective results. Younger peers find the skills of near-peer advisors more achievable and easier to replicate. Similar studies conducted found that near-peer mentoring programs have been universally liked by both mentors and mentees. Near-peer academic coaching for at-risk students with the opportunity to be tutored by high performance recent graduates in not well studied.

**Summary of Work:** We identified and enrolled 26 at-risk students who passed USMLE Step 1 on the first attempt and scored a 210 or lower. We collaborated them with recent alumni (residents in internal medicine, Emergency and Family Medicine) who scored a 255 or higher on their USMLE Step 2 CK exams. The alumni mentors provided five one-hour academic advising sessions to the at-risk students. During the sessions, the alumni mentors reviewed cases; discussed resources, reviewed study time and habits, and assigned the mentees study objectives for the next session. USMLE Step 2 CK outcomes for mentored students were tracked and compared to non-mentored students within the same USMLE Step 1 score range and cohort.

**Summary of Results:** The mentored students who scored between a 201 and 210 on USMLE Step 1 scored an average of 222 and raised by 17 points on their USMLE Step 2 CK examination. Compared to non-mentored students who scored within the same range on USMLE Step 1, received an average of 217 and raised by 7 points on their USMLE Step 2 CK examination. Mentors and mentees were surveyed to rate their experience with the program. All mentored students indicated that they felt the program helped improve their readiness for the USMLE Step 2 CK examination and would recommend it to other medical students.

**Discussion and Conclusions:** Mentored students scored on average five points higher on their USMLE Step 2 CK examination compared to non-mentored students. All mentored students rated the program favorable and indicated that their assigned mentor interaction assisted them in preparing for their USMLE Step 2 CK examination.

**Take-home Messages:** Near-peer academic coaching can enhance student readiness and performance in high stake national examinations.

## #4M Short Communications - Student in Difficulty

### 4M6 (2936)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 0.94-95, Level 0

### Identifying developmental trajectories of communication and interpersonal skills among medical students: Evidence from two longitudinal cohorts across four years

#### AUTHOR(S):

- Sunju Im, Pusan National University, South Korea (Presenter)
- Yoon Soo Park, University of Illinois at Chicago, USA

#### ABSTRACT

**Background:** Developmental trajectories are learning pathways through which students acquire certain competencies over time. They show the relationships between achievement and learning effort, providing information about progress to both students and instructors. Communication and interpersonal skills (CIS) are foundational competencies, which begin in undergraduate medical education (UME); however, it is unclear at what rate and what patterns students develop CIS during UME. We identified different patterns of CIS learning curves among medical students.

**Summary of Work:** We used data from two longitudinal cohorts of 2013-2016 (N=138) and 2014-2017 (N=140) students. Students were administered a six-station Objective Structured Clinical Examinations (OSCEs) every six months. A six-item CIS scale with five-point rating measures was used: good relationship, active listening, gathering information, empathy, sharing information, and physical exam explanation (G-coefficient=0.886). We used latent growth mixture models to investigate patterns of learning curves.

**Summary of Results:** Overall, students' CIS scores increased between second to fourth years. By item, 'good relationship' scores were the highest, 'physical exam explanation' scores were the lowest, and 'empathy' scores had the steepest increase (slope coefficient = 2.78; 95% CI:[2.49-3.06];  $p < 0.001$ ). The growth mixture models identified three distinct learning curves: 'continuous', 'slow', and 'stagnant' patterns. For students in the 'continuous' pattern, CIS scores improved continuously during the entire UME. The 'slow' pattern increased initially but the rate decreased in the latter period of training. The 'stagnant' pattern was a type in which CIS scores stagnates without further progress in the second half of training. Among 261 students, 65 (24.9%) showed a 'continuous' pattern, while 104 (39.8%) was in the 'slow' pattern and 92 (35.2%) was in the 'stagnant' pattern.

**Discussion and Conclusions:** Although CIS scores showed a tendency to increase, certain items continued to score lower without correction, and another item showed relatively rapid progress. In addition, not all students showed continuous improvement; some students may slow down or stop developing in their senior year.

**Take-home Messages:** Patterns of CIS developmental trajectories can inform better early tracking of learners and provide remediation opportunities for students who may not progress in a timely manner.

## #4N Short Communications - Curriculum - Learning Environment

### 4N1 (1769)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 2.15, Level 2

### From good to excellent: improving learning climates in residency training

#### AUTHOR(S):

- **Milou Silkens, Amsterdam UMC, the Netherlands (Presenter)**
- Saad Chahine, Schulich School of Medicine & Dentistry, Canada
- Kiki Lombarts, Amsterdam UMC, the Netherlands
- Onyebuchi Arah, UCLA, USA

#### ABSTRACT

**Background:** Improving learning climates in residency training is challenging, yet necessary to benefit residents and patients. The complexity and multidimensionality of learning climates suggests that successful improvement activities should be tailored. To inform such tailoring, this study examined (1) types of learning climate and (2) contextual factors that explain learning climate variation.

**Summary of Work:** In Dutch residency training, we administered the validated Dutch Residency Educational Climate Test (D-RECT) through a web-based system in 2014-2015. Residents were invited to complete the D-RECT. We used latent profile analysis to identify types of learning climate and applied multilevel modelling to identify relevant contextual factors.

**Summary of Results:** A total of 1730 residents participated, representing 211 training programs. We identified four learning climate types: the substandard, adequate, good, and excellent type. The hospital type (academic/non-academic), quality of faculties' teaching performance, and faculties' time investment in educational activities were contextual factors that explained learning climate variation.

**Discussion and Conclusions:** Residents rated academic programs lowest, which might be due to this setting's complexity. Therefore, the academic learning climate should be managed carefully, e.g. by aligning residents' responsibilities with the intricacy of patient care provided in academic hospitals. Furthermore, our results stress the need for improvement of faculties' teaching performance. Residency programs should adopt a continuous improvement state of mind and strive for excellence. Improvement initiatives for learning climates should be context-specific and multi-faceted. Especially faculties' teaching performance should be targeted, as it proves to be strongly associated with learning climate performance in our study and literature so far.

**Take-home Messages:** We stimulate programs to not just be good, but to be excellent. Residency programs with high quality learning climates not only support residents' learning, but also safeguard patient care provided by their residents. To improve their learning climate, residency programs should embark on tailored improvement initiatives.

## #4N Short Communications - Curriculum - Learning Environment

### 4N2 (1631)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 2.15, Level 2

### Equal opportunities for clinical learning: is there any dust under the rug?

#### AUTHOR(S):

- Juliana Sá, Faculty of Health Sciences, University of Beira Interior, Portugal (Presenter)
- Pia Strand, Lund University Faculty of Medicine, Centre for Teaching and Learning, Sweden
- Christina Gummesson, Lund University, Faculty of Medicine, Centre for Teaching and Learning, Sweden
- Ricardo Tjeng, Faculty of Health Sciences, University of Beira Interior, Portugal
- Miguel Castelo-Branco, Faculty of Health Sciences, University of Beira Interior, Portugal

#### ABSTRACT

**Background:** The power and influence of the hidden curriculum - culturally situated norms and values - on learning opportunities is a growing concern in medical education. However, while medical schools produce diversity and equal treatment policies, efforts towards surfacing and addressing equal opportunities in the clinical learning environment trail behind.

**Summary of Work:** To better understand how students perceive equal opportunities and inclusion in the clinical workplace we conducted a mixed method study. We distributed a learning climate questionnaire (the UCEEM) to medical students in clinical rotations in a Portuguese medical program and followed up results in a focus group interview with student representatives from all clinical years.

**Summary of Results:** Relatively high scores on the 'Equal treatment-scale' gave the impression that students perceived that people in general were treated with equal respect and dignity in the workplace. However, lower scores on the 'student inclusion- scale' and focus group data indicated that students not always felt welcome or included in teams and some less than others. Narratives revealed discrimination based on race, gender and weight influencing patient treatment and student learning opportunities.

**Discussion and Conclusions:** The investigation of how students perceived the learning climate in some clinical workplaces suggest that equal opportunities and inclusion may be a blind spot. Less problematic on the surface but a lot of dust under the rug. To broaden engagement and better understand where there truly are issues and how to respond to them, a first step could be to create spaces for reflection and dialogue among students and teachers.

**Take-home Messages:** Evaluations on learning climate should include questions on equal opportunities and inclusion. Mixed methods are necessary to make sense of the data. Addressing the hidden curriculum and power-structures in the clinical environment is complex and privilege is less visible to those who have it. Nevertheless, these issues must be surfaced and addressed in student curricula as well as in faculty development if policies are to be realized in practice.

## #4N Short Communications - Curriculum - Learning Environment

### 4N3 (233)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 2.15, Level 2

### Learning Environment, Stress and Coping in Psychiatry Residents: A Longitudinal Study

#### AUTHOR(S):

- Kang Sim, Institute of Mental Health, Singapore (Presenter)
- QH Chew, Institute of Mental Health, Singapore

#### ABSTRACT

**Background:** Few studies have explored learners' perceptions and its correlates within a postgraduate environment, especially within psychiatry training. This study examined longitudinal changes in perception of learning environment (LE), perceived stress and coping for psychiatry residents in junior and senior years of training. Based on extant social learning theories, the authors hypothesized that residents' perceptions of LE will improve with seniority, with accompanied lower stress levels and better coping.

**Summary of Work:** Eighty-two out of 101 psychiatry residents (81.2%) from the Accreditation Council of Graduate Medical Education-International (ACGME-I) accredited National Psychiatry Residency Program rated their perception of LE, perceived stress, and coping strategies from June 2016 to June 2018. Correlations between these variables, and changes across five time-points were examined.

**Summary of Results:** Senior-year residents reported better perception of LE over time, which was accompanied by increased use of problem-focused coping and lowered perceived stress level. Junior-year residents reported no changes in LE perception and coping strategies, despite rating greater perceived stress level over time. Perception of LE negatively correlated with perceived stress level and coping strategies, specifically less active-avoidant coping for junior-year residents, and less religious/denial coping for senior-year residents.

**Discussion and Conclusions:** Based on these findings, we have suggested specific strategies with emphasis on context, participation, and social interaction within a community of practice to better support our learners in their training.

**Take-home Messages:** - Junior psychiatry residents reported increased stress level, but no change in perception of LE and coping strategies over time. - Senior psychiatry residents reported a decrease in perceived stress level, better perception of LE and more use of problem-focussed coping over time. - Perception of LE negatively correlated with perceived stress level and specific coping strategies. - We suggest strategies with focus on context, participation, and social interaction to better support residents.



## #4N Short Communications - Curriculum - Learning Environment

### 4N4 (493)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 2.15, Level 2

### Assessment of Educational Environment in an Obstetrics and Gynaecology residency program in the UAE Using Postgraduate Hospital Educational Environment Measure (PHEEM)

#### AUTHOR(S):

- Neha Gami, Healthplus Clinic, United Arab Emirates (Presenter)
- Tasnim Abdelrahman, Corniche Hospital, United Arab Emirates

#### ABSTRACT

**Background:** PHEEM is an assessment tool used to evaluate the effectiveness of the educational environment. It evaluates three perceptions: role of autonomy, teaching and social support. In Abu Dhabi there are two residency programs of Obstetrics and Gynaecology (Corniche Hospital and Al-Ain Hospital). No prior studies were conducted to evaluate the educational environment of obstetric and Gynaecology programs in Abu Dhabi. Hence, the aim of this study was to evaluate the educational environment of the obstetric and gynaecology residency program in both Corniche and Al-Ain Hospitals using the PHEEM questionnaire and to compare the environment in the two hospitals.

**Summary of Work:** The 40 questions in the PHEEM questionnaire were used after few modifications for both groups. Data collected from the online response of 31 residents, was analysed with SPSS (version 24). PHEEM reliability was assessed using Cronbach's alpha co-efficient.

**Summary of Results:** The overall score of Corniche Hospital on the PHEEM questionnaire was 97.51 while that for Al-Ain Hospital was 120.86. Al-Ain scored higher with statistically significant differences in the total score as well as the subscale of each perception. Problem areas were identified in both groups and areas of further studies were highlighted.

**Discussion and Conclusions:** Among the Corniche residents there was a feeling that the training did not make them feel ready to be a specialist. They also felt that they did not have continuity of care. Another factor leading to low satisfaction was inadequate catering facilities while they were on call. On the other hand, the lowest scoring areas in Al-Ain were about the catering facilities when on call, a lack of no-blame culture in the program and conformation of hours to the residency contract. The results from this study support the use of PHEEM as a reliable instrument to identify issues related to the clinical educational environment. This study also brings out the strong and weak areas in the educational environment of the obstetrics and gynecology residency program in two hospitals in the UAE.

**Take-home Messages:** Perception of the educational environment using PHEEM is a useful tool to evaluate residency programs and can help identify areas that need improvement in order to improve training of residents.

## #4N Short Communications - Curriculum - Learning Environment

### 4N5 (2092)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 2.15, Level 2

### Elements of an Optimal Interprofessional Clinical Learning Environment

#### AUTHOR(S):

- **Morgan Passiment, Accreditation Council for Graduate Medical Education, USA (Presenter)**
- Sheryl Cosme, American Nurses Credentialing Center, USA
- Janet Silvester, American Society of Health-System Pharmacists, USA
- Kevin Weiss, Accreditation Council for Graduate Medical Education, USA

#### ABSTRACT

**Background:** Patient care is becoming increasingly complex, compelling teamwork, problem solving, and innovative thinking by today's health care workforce. Addressing this complexity necessitates medical educators to purposefully design and plan educational experiences in collaboration with the leadership of the clinical learning environment. Optimizing these learning experiences for patient care involves interprofessional engagement and practice in the clinical learning environment. The National Collaborative to Improve the Clinical Learning Environment (NCICLE) held a symposium, with the intent to create a conversation that characterizes the optimal interprofessional clinical learning environment (IP-CLE).

**Summary of Work:** Over 100 participants representing a broad range of perspectives - both across health education professions (e.g., medicine, nursing, pharmacy, advanced practice providers) and across various levels of leadership (e.g., national stakeholders, educational leaders) participated in an iterative process to examine strategies that advance postgraduate education. The symposium generate a shared understanding across three areas: 1) the value of IP-CLEs, 2) characteristics of optimal IP-CLEs, and 3) the role of leadership in creating the optimal IP-CLE.

**Summary of Results:** Themes identifying the value of an optimal IP-CLE were organized into 4 groups: patients and families, learners, health care organizations and health systems, and academic medical centers. Key characteristics of an optimal IP-CLE identified 6 categories: patient centeredness, continuum of learning, reliable communications, team-based care, shared accountability, and evidence-based practice centered on interprofessional care. The role of leadership was defined from 3 different perspectives: macro (i.e., health systems consisting of multiple hospitals and clinic), meso (i.e., hospitals or multispecialty clinics), micro (i.e., clinical or service line units).

**Discussion and Conclusions:** These findings highlight the opportunity for leaders and educators to examine the settings in which clinicians are learning to purposefully plan how existing cultures, structures, and processes can support or hinder interprofessional learning and collaborative practice. Important next steps include defining a common language; refining the value for educators, learners, patients and organizations; building bridges between professions and external stakeholders; developing, testing and disseminating evidence-based models of learning; and advocating for optimal IP-CLEs.

**Take-home Messages:** The symposium framework can be used by educators to create conversations and actions toward developing an interprofessional clinical learning environment that meets the current and future needs of patient care.

## #4N Short Communications - Curriculum - Learning Environment

### 4N6 (96)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 2.15, Level 2

### Application of problem-based learning for operating room crisis management training

#### AUTHOR(S):

- Nobuyasu Komasaawa, Osaka Medical College, Japan (Presenter)
- Benjamin W.Berg, Hawaii University, USA
- Fumio Terasaki, Osaka Medical College, Japan
- Toshiaki Minami, Osaka Medical College, Japan

#### ABSTRACT

**Background:** Senior anesthesia residents must acquire competency in operating room (OR) emergency crisis management. Both technical and non-technical skills are necessary integral competencies for effective team-based OR emergency management. We conducted problem based learning discussion (PBLD) OR emergency scenarios for anesthesia residents, focused on 'Airway', 'Circulation', 'Central venous catheter', and 'Pain management complications'.

**Summary of Work:** Prior to integrated OR emergency clinical PBLD training, anesthesia residents completed two 5-point scale surveys regarding their emergency OR management experiences, and self-confidence in anesthesia-related crisis management. Repeat administration of the self-confidence survey was completed immediately following PBLD training.

**Summary of Results:** 35 anesthesia residents with mean clinical experience of  $7.2 \pm 3.5$  years from 6 collaborating teaching hospitals. Post-PBLD resident clinical management self-confidence improved ( $P < 0.05$ ) in all Circulation, Central venous catheter, and Pain management complications. Airway topics of impossible intubation, impossible oxygenation, and awake intubation did not show significant self-confidence differences following PBLD.

**Discussion and Conclusions:** The primary merit is the flexibility of PBLD to match learner needs. This approach permits on-the-fly facilitation and scenario modifications to flexibly match the professional needs and level of individual participants. Secondary merit is PBLD enables simultaneous participation of a larger number of learners, compared to traditional case management and debriefing of manikin-based scenario training. PBLD for OR emergency management and non-technical skill training can effectively improve resident self-confidence. PBLD can be used as an adjunct or alternative to more resource intensive simulation using standard high technology simulation-based resuscitation training for selected topics.

**Take-home Messages:** PBLD about OR crisis is effective for anesthesia resident education.

## #40 Short Communications - eLearning 1

401 (499)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 2.31, Level 2

### Does a targeted, online, interactive teaching module improve medical imaging knowledge acquisition and clinical application?

#### AUTHOR(S):

- Sue Garner, Deakin University, Australia (Presenter)
- Simon Ussher, Deakin University, Australia
- Anna Wong Shee, Deakin University, Ballarat Health Services, Australia
- Mark Yates, Deakin University, Australia
- Meg Murray, Deakin University, Australia
- Vincent Versace, Deakin University, Australia

#### ABSTRACT

**Background:** Current medical imaging curricula and methods of teaching, based on traditional classroom techniques, may not be providing medical students and interns with the skills required to be work ready and practice medical imaging at a basic level. Feedback from radiologists based in a teaching hospital, report a lack of acquired skills among junior doctors in regards to their knowledge of basic interpretation skills, appropriate history information gathering, and medical imaging vocabulary. As with many disciplines, medical education is increasingly incorporating e-learning into its curriculum, as it allows for an efficient and standardised education. An Australian University has developed a medical imaging curriculum using blended learning, with the e-learning module working alongside traditional classroom teaching.

**Summary of Work:** This research aimed to determine the impact of a targeted, online, interactive teaching module on students' medical imaging knowledge acquisition and clinical application (e-learning). A quasi-experimental, non-equivalent control group design was used, and involved a cohort of third-year medical students from four geographically disparate clinical schools. Control group students received traditional learning from their curriculum, whilst the intervention group included students from a single clinical school, who received the developed e-learning module in addition to traditional learning. Each group completed one pre-test multiple choice questionnaire (MCQ) and two post-tests (MCQ and Mock Objective Structured Clinical Examination: MOSCE), in order to compare medical imaging knowledge acquisition and clinical application.

**Summary of Results:** In this pilot study, the intervention group had significantly better performance than the control group in two of the themes 'knowledge' and 'combined comprehension and application' measured in MOSCE.

**Discussion and Conclusions:** The standardisation coupled with flexibility achievable with e-learning has previously been associated with high levels of student satisfaction, motivation, and engagement. Initial findings revealed that, compared to traditional teaching methods, the introduction of an online teaching module had a significant effect on students medical imaging knowledge, comprehension and application.

**Take-home Messages:** As the use of this online teaching module is new and being trialled at one rural clinical school, the results of this study will be replicated on a larger scale across a variety of clinical schools and sites.

## #40 Short Communications - eLearning 1

402 (2572)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 2.31, Level 2

### Challenges and pitfalls of E-Learning System in Preclinical Medicine in Romania: Victor Babes University of Medicine and Pharmacy Experience

#### AUTHOR(S):

- Anca Maria Cimpean, Victor Babes University of Medicine and Pharmacy Timisoara Romania (Presenter)
- Romeo Minodoru Cosnita, Victor Babes University of Medicine and Pharmacy Timisoara, Romania, Romania
- Marius Raica, Victor Babes University of Medicine and Pharmacy Timisoara, Romania, Romania

#### ABSTRACT

**Background:** To change students' learning and evaluation for the first time in a 'frozen in time' medical education system represents a big challenge. To replace a microscope with a computer at histology seems to be like 'a fight against the wave' especially for countries where old learning and examination systems are similar with those implemented decades before. Such changes seems to have an unexpected impact on teachers, students and society being paved with challenges and pitfalls solvable by own 'step by step' experience overlapped on young generation actual needs.

**Summary of Work:** Present work started in 2017 at Department of Histology, by aquisition of E School System including a slide scanner, a Virtual Microscopy module for teaching and an Exam Module for students evaluation. Conventional microscopes were replaced by computers and classical glass slides with scanned images. Teachers and tutors were trained to use the system and to create MCQs for both practical and theoretical evaluations uploaded into Exam Module platform. We evaluated the E learning impact on students skills and performance and also on teachers and tutors work .

**Summary of Results:** 'Computer gaming' with histology was delightful for students. By contrast, teachers were afraid of loosing their jobs but slowly they understood that such system helps but not exclude them. Standardized informations given to students helped them to pass evaluations easier. Exams stress decreased while attendance to first examination increased. Graduation percentage and students' confidence in the accuracy of the exam results were improved. Time for evaluation was significantly reduced giving to teachers the opportunity to invest time in research or academic development. Teaching and exam module software was periodically updated, being adapted to our curriculum.

**Discussion and Conclusions:** Implemented for the first time in preclinical medical education in Romania, E learning and examination system had a quick positive impact on students and teachers despite of controversial issues which commonly come with any change. In the near future, one more discipline from our university and another romanian university decided to implement it as a confirmation of its usefulness.

**Take-home Messages:** Use the future for the present!



## #40 Short Communications - eLearning 1

403 (1010)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 2.31, Level 2

### Lessons Learned - Virtual Graduation for Online Distance Students

#### AUTHOR(S):

- Jenny Crow, University of Glasgow, UK (Presenter)

#### ABSTRACT

**Background:** Many postgraduate students now undertake education online. Online learning brings flexibility, facilitating global access to courses and the ability to fit studying around a medical career. However, this mode of study can potentially result in students feeling disconnected from the University compared to on-campus students. To mitigate this, the University of Glasgow (UofG) has introduced a virtual graduation for the College of Medical, Veterinary and Life Science (MVLS). Graduation at UofG is a centuries-old, traditional occasion. Until this year, virtual graduation was not provided; thus, online distance students missed this unique experience, due to work commitments or geographical location.

**Summary of Work:** The first virtual graduation was held in November 2018. Before the event, separate test sessions were setup with students and senior management. A detailed plan was created and issued to all staff. A radio-controlled car was customised by the MVLS Bio Electronic Unit, an iPad attached, and graduation gown. Students were connect by Zoom to the ceremony in Bute Hall, which was facilitated by a member of learning technology staff.

**Summary of Results:** The ceremony went relatively smoothly. There were challenges; for example, one student joined the ceremony late and decided to change location during the ceremony, which was distracting for others. When interviewed, another student suggested that the audio could have been improved, but that they overall really enjoyed the experience.

**Discussion and Conclusions:** After the initial pilot, it was highlighted that greater clarity of audio especially the Principal's speech, would have improved the experience. Therefore, one of the next steps, is greater testing of different platforms and microphones. Student feedback also highlighted the need to provide a brochure, including the historical background to the ceremony, and expectations for virtual graduation.

**Take-home Messages:** For this project to be a success, it required support of the senior management; therefore they required a demonstration of the robust nature of the event. Testing was vital in this process. Virtual graduation was a great opportunity to connect students with the prestige of the University and celebrate in their success in graduating.

## #40 Short Communications - eLearning 1

404 (2297)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 2.31, Level 2

### Patterns of online formative assessment usage and summative assessment performance in a clinical rotation

#### AUTHOR(S):

- Karen Scott, The University of Sydney, Australia (Presenter)
- Meenakshi Rattan, The University of Sydney, Australia
- Deborah O'Mara, The University of Sydney, Australia
- Hasantha Gunasekera, The University of Sydney, Australia

#### ABSTRACT

**Background:** Medical programs often integrate technology-enhanced learning (TEL) with face-to-face teaching. One TEL format, online formative assessment, promotes retention of knowledge, provides feedback for learning and enables active learning, which is beneficial according to Constructivist theory. There are scant data on how student use of TEL affects summative assessment results in clinical rotations. We investigated patterns of student TEL usage in Sydney Medical School's eight-week flipped-classroom Child and Adolescent Health block and examined associations with summative assessment and demographic characteristics.

**Summary of Work:** Data were extracted from the Learning Management System's access logs for 266 students who passed the block over four cohorts (July 2015-June 2016). Individual student access logs were downloaded and de-identified. Usage data included number of access clicks and duration of access overall and for five online formative assessments. We used K-means cluster analysis to investigate usage patterns in conjunction with academic performance and student characteristics. Most data were ordinal, and continuous measures were standardised prior to analysis. Multicollinearity was avoided through correlational analyses prior to final variable selection.

**Summary of Results:** The four cluster K-Means solution provided the best fit to the data, identifying four key usage patterns: 'Disengaged students' (16% students) - little TEL usage and lowest assessment scores (mean block mark=70%, SD=7%); 'Minimalist students' (27% students) - accessed some TEL but not all and had average assessment scores (mean=72%, SD=7%); 'Strategic students' (33% students) - selective TEL usage and good assessment scores (mean=75%, SD=6%); and 'Conscientious students' (24% students) - comprehensive TEL usage and good assessment scores (75% block, SD=7%). This trend was also evident with the separate end-of-year Barrier exam. Demographic differences between clusters were small.

**Discussion and Conclusions:** These TEL usage and assessment patterns could be applicable to other contexts. Analysing TEL usage may highlight students who could be encouraged to become more engaged with their learning if we demonstrated impact on summative assessment.

**Take-home Messages:** Patterns of students' TEL usage generally correspond with summative assessment results. We provide a framework for targeting students who have a minimalist or disengaged attitude to make better use of opportunities afforded in an expansive medical program.

## #40 Short Communications - eLearning 1

405 (1387)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 2.31, Level 2

### E-learning readiness of medical students from the University of the Witwatersrand

#### AUTHOR(S):

- **Argentina Maria Ingratta, University of the Witwatersrand, South Africa (Presenter)**
- Ann George, University of the Witwatersrand, South Africa
- Lionel Green-Thompson, Sefako Makgatho Health Sciences University, South Africa

#### ABSTRACT

**Background:** Students are major stakeholders in the global trend towards eLearning in medical education. The current curriculum review at a South African university promises greater technology-based learning. This study investigated the usage of information and communication technologies (ICT) for eLearning amongst the 2017 medical student population at the University of the Witwatersrand (Wits). This information could inform the feasibility of moving towards more ICT-based learning and introducing a 'bring your own device' (BYOD) policy.

**Summary of Work:** A cross-sectional survey was circulated to a convenience sample of first (n=255), third (n=350) and final year (n=319) students drawn from the six-year medical programme (MBBCh). Students were asked about what devices they had access to, how they used them for learning, and about obstacles to using their devices for learning. The survey included both closed- and open-ended questions. Quantitative data were analysed using frequency tables, custom tables, and the Kruskal Wallis ANOVA test. Responses to the open-ended questions were analysed using content analysis.

**Summary of Results:** The survey response rate was 48.5% (448/924) with a completion rate of 81% (364/448). Most students (99%) owned internet-capable devices and regarded their laptop (91.5%), smartphone (87%) and tablets (64%) as important to their academic success. The majority of students (79.1%) were willing to use their own device(s) at the university. The respondents displayed predominantly positive attitudes and dispositions to ICT, with about half stating that they engaged more with courses that use ICT. More than 90% of respondents would prefer some degree of online teaching and learning. Perceived barriers to eLearning included poor internet connectivity; device features, especially battery life; concerns about safety and security; high data costs; and insufficient usage of eLearning by teaching staff to warrant students bringing their own devices.

**Discussion and Conclusions:** These medical students own, value, and are willing to use their ICT devices for learning. However, the University needs to address the unreliable internet connectivity, high data costs, and safety and security concerns when using devices on campuses before eLearning can be implemented more effectively.

**Take-home Messages:** Students are ready for BYOD provided the environment is adequate.

## #40 Short Communications - eLearning 1

406 (2185)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 2.31, Level 2

### Measuring the Learning Outcomes of Healthcare Hackathons

#### AUTHOR(S):

- Mataroria Lyndon, Centre for Medical and Health Sciences Education, The University of Auckland, New Zealand (Presenter)
- Leo Anthony Celi, Massachusetts Institute of Technology, USA
- Felipe Piza, Hospital Israelita Albert Einstein, Brazil

#### ABSTRACT

**Background:** Healthcare hackathons are proposed as a model for teaching health information technology skills and analytics through interprofessional collaboration and teamwork. Few studies have measured their effectiveness with these objectives.

**Summary of Work:** A multicentre cross-sectional study of two healthcare hackathon events were conducted in Beijing, China (November 2017), and in Madrid, Spain (December 2017). Participants (n=183) were invited to complete an online survey at the end of the hackathons. The survey contained the Affective Learning Scale, Team-Review Questionnaire, measures of event satisfaction and perceived knowledge gain. The data collected was analysed using descriptive statistics, and one-way ANOVA to identify demographic differences in responses (by gender, professional group).

**Summary of Results:** The response rate was 54%. Participants were mostly male (53%); 38% were health professionals, 21% were engineers, and 20% were computer scientists. 97% of participants expressed satisfaction with the hackathon, and 95% are likely to recommend these events to others. Participants' affective learning scores (Likert-type scale scored 1-7) demonstrated positive perceptions of the learning process relating to content and subject matter (M = 5.90, SD = 1.21), suggested behaviours (M = 4.79, SD = 1.85), instruction (M = 6.16, SD = 1.23), engagement (M = 4.64, SD = 2.09), and future participation (M = 6.13, SD = 1.32). The greatest knowledge gain reported pertained to medical data analysis and application, cross disciplinary teamwork, and gaining knowledge of other disciplines. Teamwork experience was highly rated (Likert-type scale scored 1-7) including a positive team climate (M = 6.10, SD = 1.23); commitment (M = 6.02, SD = 1.14); creativity (M = 5.94, SD = 1.25), and overall team effectiveness (M = 5.82, SD = 1.21). The one-way ANOVA found no significant differences in scores by gender or professional group (p>0.05).

**Discussion and Conclusions:** Hackathons provide a satisfying learning experience for participants across professional and demographic groups, and promote affective learning, cross-disciplinary collaboration, and team-work. With the increasing influence of healthcare technology and analytics on clinical practice, hackathons may provide educational opportunities to prepare healthcare professionals for a digital healthcare future.

**Take-home Messages:** Healthcare hackathons provide a satisfying learning experience for participants across professional and demographic groups and promote affective learning, cross-disciplinary collaboration, and team-work.

## #4P Short Communications – Diversity and Gender

### 4P1 (1481)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L1, Level 1

### Integrating diversity into Problem-based Learning for pre-clinical students to develop cross-cultural care competence: students' and teachers' perceptions

#### AUTHOR(S):

- Peih-ying Lu, College of Medicine, Kaohsiung Medical University, Taiwan (Presenter)
- Jer chia Tsai, College of Medicine, Kaohsiung Medical University, Taiwan

#### ABSTRACT

**Background:** Increasing diversity has posted challenges on learning objectives and pedagogic strategies of medical education worldwide. Previous studies showed students self-perceived cross-cultural care (CCC) preparedness was inadequate in the preclinical stage. Our study investigated the effectiveness of introducing CCC issues into Problem Based Learning (PBL) in the preclinical basic and clinical sciences integrated course (Block) in a Taiwanese medical school by exploring teachers' and students' perceptions.

**Summary of Work:** We included those less-prepared diversity issues previously identified into PBL scenarios of Blocks involving new immigrants, LGBT patients, and CAM etc. A total of 239 student general survey responses to Pediatrics, Renal and Infectious Disease and a specific feedback survey to Infectious Disease section (student=124; teacher=24) were collected and analyzed with SPSS. Two semi-structure student survey questions and focus groups interview on tutors were conducted, transcribed/coded and analyzed with content analysis.

**Summary of Results:** Quantitative analysis revealed students agreed that CCC integrated PBL gave them better understanding of diversity (63.9%) and preparedness for clinical learning (79.6%). Both students and teachers agreed that diversity issues should be included in curriculum. Qualitative analysis further revealed that although students identified CCC patient care issues such as decision-making pattern, bias, language, different generational health belief, social resources, and gender issue, tutors still believe there was a gap to bridge as most students still considered CCC equates to equality of treatment solely, which correspond the significant difference between student/teacher perspectives on students' preparation for LGBT patients ( $p=0.018$ ). Overcrowded curriculum and time pressure for discussion remain challenging to both teachers and students.

**Discussion and Conclusions:** PBL embedded with CCC learning issues allows students in raising awareness of the impact of diversity on health care. Throughout the program, PBL tutors reflected the CCC issues and the gap in students learning experience. Much effort is needed in continuation of this design and constructing a guideline for integrating proper issues into different Blocks to help students obtain broader views of social-cultural aspects of medical care.

**Take-home Messages:** Strategically bringing CCC training into PBL courses in pre-clinical stage provides a milieu for students to understand diversity issues in health care and develop CCC, which better prepares students for clinical learning.



## #4P Short Communications – Diversity and Gender

### 4P2 (684)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L1, Level 1

### The Relationship between Racial Bias and Burnout Among Resident Physicians

#### AUTHOR(S):

- Lotte Dyrbye, Mayo Clinic, USA (Presenter)
- Jeph Herrin, Yale School of Medicine, USA
- Colin West, Mayo Clinic, USA
- Natalie Wittlin, Yale University, USA
- Sean Phelan, Mayo Clinic, USA
- Michelle van Ryn, Oregon Health & Science University, USA

#### ABSTRACT

**Background:** Given the importance of understanding physician bias and reducing racial disparities in care, we conducted a study to assess the relationship between burnout and explicit and implicit racial attitudes in a national sample of residents.

**Summary of Work:** In 2016, 3588 completed the second year of residency (R2) questionnaire and in 2017, 3058 completed the third year of residency (R3) questionnaire. Burnout symptoms were measured by 2 single-item measures from the Maslach Burnout Inventory. Respondents were classified as never having burnout (no burnout at either timepoint), recovered from burnout (burnout at R2 but not R3 timepoint), chronic burnout (burnout at both timepoints), and new burnout (burnout only at R3 timepoint). Explicit attitudes toward White and Black people were measured by a feeling thermometer (FT, both timepoints). The R2 questionnaire included an Implicit Association Test to measure implicit bias against Black relative to White people. We used multivariable models to examine the association between burnout status and bias; Black FT models were adjusted for R2 reported White FT score.

**Summary of Results:** In multivariable analyses, R2 reported burnout was associated with greater R2 reported explicit bias against Blacks (Coeff -2.34, 95% CI -3.40, -1.28) and implicit bias against Blacks (Coeff .05, 95% CI .02, .08). In the longitudinal cohort, explicit attitudes towards Blacks became more favorable overall between R2 and R3 (78.6 [20.8] vs 81.3 [19.9]). In multivariable analysis, the change in explicit bias against Blacks varied across different burnout change patterns from R2 to R3, with the most positive shift seen among residents experiencing recovery from burnout (referent never had burnout, delta Coeff [95%CI]: recovered from burnout, 2.49 [95% CI -0.67, 5.66], new burnout, -2.42, [95%CI -4.28, -0.57], chronic burnout, -0.58, [95%CI -2.38, 1.22]; overall p=.005).

**Discussion and Conclusions:** Burnout was associated with greater explicit and implicit racial bias. Explicit attitudes toward Black people became more positive over the course of one year. Specifically, recovery from burnout was associated with the greatest reduction in explicit bias against Black people.

**Take-home Messages:** Given the high prevalence of burnout among physicians and the negative impact bias has on medical care, symptoms of burnout may contribute to disparities in care.

## #4P Short Communications – Diversity and Gender

### 4P3 (311)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L1, Level 1

### Preaching to the choir? Medical students' evaluation of a module on care ethics and diversity

#### AUTHOR(S):

- Petra Verdonk, Amsterdam UMC, the Netherlands (Presenter)
- Nikki Bruin, Katholieke Universiteit Leuven, Belgium
- Maaïke Muntinga, Amsterdam UMC-VUmc, the Netherlands

#### ABSTRACT

**Background:** Addressing diversity issues in medical curricula is pivotal to increase physicians' cultural competency and critical consciousness. To reach all students with diversity education, insight is needed in the relationship between evaluation outcomes and students' sociodemographic backgrounds.

**Summary of Work:** In Amsterdam UMC-VUmc, we developed a 2nd year bachelor module on Care Ethics and Diversity which aimed to provide students e.g. with knowledge of concepts such as in- and exclusion in health care, discrimination and racism and skills to reflect on their own role in managing patients' diverse expectations in health care. After watching three art-based videos, students engaged in a dialogue about diversity, health care, and care ethics. In 2015 and 2016, a 12-item evaluation questionnaire based on learning outcomes were administered to medical students (N=287) immediately after the module. Module satisfaction was measured from 1=very poor to 10=excellent; learning objective-related items were measured using a 5-point Likert scale. Results were analyzed using multiple linear regression, Pearson's correlation and Chi-square tests.

**Summary of Results:** We found a strong positive correlation between overall satisfaction score (7.3) and students' level of interest in the issues addressed ( $r=.70$ ). Male gender was negatively associated with increased awareness of own norms about good care. Students with migrant backgrounds reported higher satisfaction, perceived the module as more interesting and more personally relevant, and had higher scores on four of the six learning objective items.

**Discussion and Conclusions:** Minority students reported more overall satisfaction with diversity and care ethics education and more diversity learning than majority students. Engaging all students in diversity education is necessary, however, students' sociocultural backgrounds play a role in their learning. Privilege may influence students' (dis)satisfaction and level of (lack of) interest in diversity education. Further research is required to assess the impact of diversity education on diversity learning and processes related to building critical consciousness among all students.

**Take-home Messages:** 1. Openness to diversity education is associated with diversity aspects such as students' migrant background or gender; 2. Diversity education may reflect 'preaching to the choir'; 3. Research is needed about how to teach all students including more privileged majority students.

## #4P Short Communications – Diversity and Gender

### 4P4 (2235)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room L1, Level 1

### Gender bias in medical education: a level playing field?

#### AUTHOR(S):

- Gabrielle Finn, Hull York Medical School, UK (Presenter)
- George Hunt, Hull York Medical School, UK

#### ABSTRACT

**Background:** Gender bias is a well-documented phenomenon across many sectors including medicine and academia. Examples include females are likely to rise through the ranks and receive significantly lower salaries. Gender bias includes assumption of identities, gender roles, including heteronormativity and maternal wall bias, as well as the vocabulary associated with gender. This qualitative project explored experiences and awareness of gender bias and heteronormative assumptions within staff and students.

**Summary of Work:** Following ethical approval, all students and staff at a UK Medical School were all sent an email inviting them to participate in semi-structured interviews. 20 students and 9 faculty members were recruited. Once thematic saturation was reached, interviews were transcribed verbatim and thematically analysed.

**Summary of Results:** Five major themes emerged from the data. These were: culture, the absences of learning and exposure, compensation and positive discrimination, initiatives, and education. Associated themes and subthemes will be presented.

**Discussion and Conclusions:** Experiences of curriculum delivery were found to contain implicit heteronormative assumption and gender bias, with social issues (such as ethnicity and religion) not being comprehensively addressed. Teaching on gender and sexuality issues was thought valuable and desired to be encompassed in the formal curriculum. Student led, extra-curricular sessions on LGBTQ health were detailed by participants as having occurred in the past. A medical student desire has been recognised for more specific teaching on gender and sexuality. Participants discussed the impact of sociocultural beliefs and assumptions about normative gender and sexuality working into medical education and practice through the hidden curriculum. Participants readily attributed bias or norms experienced to wider societal influence. It was recognized that medical education is seeking to supersede this to enable the best rapport and care of patients.

**Take-home Messages:** Gender bias and heteronormative assumption continues to be experienced within medical education. These biases are reducing due to: societal change; active intervention; and education (about issues and health related factors). Interventions to reduce gender inequality are valuable and effective when engaged with appropriately. Students express a desire for increased education about gender issues and LGBTQ health in the formal curriculum (including epidemiology, disease and communication skills) to enable them to be better clinicians.

## #4P Short Communications – Diversity and Gender

### 4P5 (386)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L1, Level 1

### The Inaugural Women in Medicine Summit: A student initiative addressing gender biases in medicine

#### AUTHOR(S):

- Lily Wang, University of Toronto, Canada (Presenter)
- Jennifer Tang, University of Toronto, Canada
- Flora Jung, University of Toronto, Canada
- Sophia Wen, University of Toronto, Canada

#### ABSTRACT

**Background:** Women are disproportionately represented in leadership roles in healthcare and face unique challenges to career development. There is also a lack of opportunity for students to learn about the gender biases in medicine and to develop the skills needed to address these barriers. The inaugural Women in Medicine Summit (WiMS) provided the occasion for students and faculty to engage in conversations about succeeding as a female in medicine while balancing work and life. This study evaluates a novel student-initiated conference aimed to prepare medical trainees for gender-associated challenges in the workplace.

**Summary of Work:** The full day summit was organized by four medical students at the University of Toronto, and featured two keynote speakers, three panels, and three workshops. 106 medical trainees from five Canadian medical schools (Ottawa, Queen's University, Laval, Western, and the University of Toronto) attended event on August 18, 2018. Following the event, attendees were invited to complete a post-program assessment. 43 responses were obtained.

**Summary of Results:** 55.8% of medical students reported previously experiencing gender-associated discrimination in medicine, most frequently in the form microaggressions where female medical trainees were mistaken as nurses, or were counselled against surgical specialties due to the 'tough' lifestyle. 72.1% of students reported feeling 'very' prepared to address gender-associated challenges in medicine after attending WiMS (compared to 16.3% pre-summit). Attendees reported WiMS improved readiness to address microaggressions, achieve work-life balance, and adopt different leadership techniques. 97.7% of attendees reported learning something new at the summit. 100% reported an event like this would be valuable for other medical students to attend in the future.

**Discussion and Conclusions:** Our results highlight the lack of preparedness that Canadian medical trainees experience in addressing gender-associated challenges in the workplace and the capacity for a short-term intervention to significantly improve their skills and comfort. Based on the strong recommendation from the attendees, other medical schools globally may benefit from implementing similar initiatives.

**Take-home Messages:** 1. Women are disproportionately represented in leadership roles in healthcare, possibly due to a lack of preparedness for trainees to address gender-associated challenges in the workplace 2. Intervening with opportunities for students to build skills to address gender biases can significantly improve comfort.

## #4Q Short Communications - Threshold Concepts

### 4Q1 (3098)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.15, Level 0

### The 'A-ha' Moment - Communication Skills and Reflective Practice as Threshold Concepts in Dental Education

#### AUTHOR(S):

- Shahid Mitha, Universiti Brunei Darussalam, Brunei (Presenter)

#### ABSTRACT

**Background:** We have all had those moments during our medical/dental education where we are struggling to understand a concept that has somehow eluded us for some time. And then voila it suddenly becomes crystal clear and from that moment onwards we cannot unlearn nor forget that one concept and this then transforms our learning process so that every inter-related concept becomes much more comprehensible. Welcome to the threshold concept.

**Summary of Work:** Minimal literature covering threshold concepts with communication and reflection skills exists but some studies have identified the effectiveness of videos, role play and simulated patients in the development of these skills. Based on these, students in the first year of the Dentistry Programme were primed to focus on patient-oriented care and communication skills using flipped classrooms. Patient scenarios were constructed to stimulate maximal dialogue for role play, the students briefed in-depth and videos filmed and sourced from Youtube. Students were then divided into smaller groups for role play where each group evaluated and gave feedback to the other each month, following up with a reflective practice session. Students finally underwent formative assessment in the form of OSCEs.

**Summary of Results:** Students generally enjoyed the sessions and stated that these were good learning experiences in a focus group discussion. Communication skills was found to have been learnt gradually over the semester and students were performing far better at verbal and non-verbal communication towards the end. Their reflective sessions were however even more appreciated and students described quite graphically the moment they understood the impact their own reflection made on their learning experience.

**Discussion and Conclusions:** The positive feedback and student engagement with communication skills encouraged us to continue with these sessions. However, reflective practice was identified as a threshold concept in its own right and further studies with medical, pharmacy and nursing students are currently being planned with reflective diaries and portfolios to enhance the experience.

**Take-home Messages:** There is growing literature on threshold concepts in higher education and Universities must embrace these soonest as they will redefine student learning in the near future.



## #4Q Short Communications - Threshold Concepts

### 4Q2 (2977)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.15, Level 0

### Teaching the transition: A simulation-based approach to address threshold concepts encountered in the transition to clinical placements

#### AUTHOR(S):

- Claire Spiller, IMBE, St George's University of London, UK (Presenter)
- Stella Ivaz, IMBE, St George's University of London, UK

#### ABSTRACT

**Background:** The transition from the preclinical to clinical years is an important liminal moment in the professional development of a medical student. Certain attitudes and behaviours have been observed as threshold concepts as part of this transformation. We proposed to address these threshold concepts using a simulation-based approach.

**Summary of Work:** Two simulation-based sessions were developed to prepare first year clinical students for a medical ward placement: a medical ward round and an 'on take' scenario seeing patients in A&E resus. These sessions were explicitly designed to incorporate the perceived threshold concepts of diagnostic clinical reasoning and of learning how to learn in the clinical environment. The sessions ran 6 times across the year to 328 medical students in their first clinical year and were evaluated by anonymous questionnaire.

**Summary of Results:** 52 responses were received. 86.6% of students agreed or strongly agreed the sessions helped prepare them for their Medicine placements. Amongst the reasons given for their usefulness, themes of practicality and elements of the 'hidden curriculum' were most frequently stated. 75% found the sessions helped them to negotiate the new learning environment. The 2 main themes reported by the students with respect to their performance in the clinical environment were increased familiarity and proactivity. 82.7% reported that the sessions improved their understanding of making a diagnosis. The most common articulation of this related to cognition in terms of process, structure and meaning.

**Discussion and Conclusions:** Improvements were reported in the understanding of clinical diagnostic thinking and in the ability to negotiate the clinical learning environment; the threshold concepts these sessions were designed to address. Of the aspects reported as most useful by students, it is the medium of simulation which permits these; the practical application of knowledge and skills, but also aspects of the 'hidden curriculum' which contribute to professional identity formation. Simulation can therefore provide a safe and ring-fenced space for developing aspects of professional attitudes and behaviours.

**Take-home Messages:** Simulation allows a means of addressing development of attitudes and behaviours contributing to professional identity formation.

## #4Q Short Communications - Threshold Concepts

### 4Q3 (1045)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.15, Level 0

### Is Self-Regulated Learning a threshold concept? An audio-diary study of PBL in two UK Medical Schools

#### AUTHOR(S):

- Hilary Neve, University of Plymouth Peninsula Medical School, UK (Presenter)
- Sarah Meek, School of Medicine, University of Glasgow, UK

#### ABSTRACT

**Background:** An important aim of medical schools is to support students to become self-regulated, lifelong learners. Problem Based Learning (PBL) is well placed to foster self-regulated learning, although evidence as to whether this occurs is mixed (Loyens, 2008, Lucieer, 2014). The safe, facilitated and collaborative nature of PBL could also encourage the acquisition of Threshold Concepts by supporting learners through the unsettling liminal space. However, the different ways in which PBL is delivered in different settings can influence its success (Taylor & Mifflin 2008).

**Summary of Work:** The study took place in two UK medical schools with different approaches to PBL. Students and tutors recorded audio-diaries directly after PBL sessions. Participants were asked to describe shifts in understanding and aha moments, times where learning was troublesome, and perceived enablers and barriers to their learning. Reflections were uploaded to a secure dropbox, transcribed and analysed using the Threshold Concept Framework and NVivo software to identify key themes.

**Summary of Results:** 164 audio-reflections were recorded by 19 students and 13 tutors. Certain concepts were identified as troublesome and potentially threshold across both sites. Uncertainty in PBL, and the role of collaborative and visual learning in supporting students through liminality, were themes across both sites. An overarching theme related to self-regulated learning as a possible Threshold Concept, but differences emerged in relation to its development within the two PBL contexts. We will summarise these findings using illustrative quotes.

**Discussion and Conclusions:** While often troublesome at first, PBL can support students to cross thresholds in learning. Our findings suggest that the ability of PBL to foster self-regulated learning, including self-efficacy and metacognition, is influenced by the PBL approach and context, such as the balance between process and content and the use (or not) of explicit staff-defined ILOs.

**Take-home Messages:** Recognising self-regulated learning as a possible threshold concept highlights its importance in health professions education and as a PBL goal. Our findings provide insights into (i) why students and faculty often find PBL initially troublesome and (ii) how PBL curricula and tutors could facilitate students' development as self-regulated learners.

## #4Q Short Communications - Threshold Concepts

### 4Q4 (2447)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.15, Level 0

### Development of Self Regulated Learning as a Threshold Concept: from the Learning Coaches' perspective

#### AUTHOR(S):

- Anna Vnuk, Prideaux Centre, Flinders University, Australia (Presenter)
- Johanna Jordaan, Prideaux Centre, Flinders University, Australia

#### ABSTRACT

**Background:** One of the central tenets of Programmatic Assessment for Learning (PAL) is the development of the student as a Self Regulated Learner (SRL). Last year, we presented a short communication at AMEE on 'Programmatic Assessment for Learning as a Threshold Concept' where we looked at how the students' reflections in the portfolio demonstrated their progress towards understanding PAL and becoming a SRL, when viewed through the lens of Meyer and Land's work on Threshold Concepts (TC). One of key resources within PAL is the Learning Coach (LC) whose role is to guide the student in their development as a SRL. The LCs read their allocated students reflections in their portfolios and then meet with them 2-3 times a year to discuss their progress. This current study continues from our work last year and looks at how the LCs perceive their students' progress in this journey and what they identify as enablers and barriers in this development.

**Summary of Work:** Flinders University has a 4 year Graduate Entry Medical Program. PAL was introduced for year 1 students at the beginning of 2017. LCs who started in either 2017 or 2018 were invited to join a focus group. A series of questions about their perceptions of the students' progress as SRLs and their perceptions of the barriers and enablers were asked and the responses were analysed through the framework of TC.

**Summary of Results:** The LCs were able to describe the students' development as SRLs with clear evidence of them passing through the stages of TC. They described great variability in when students crossed the threshold and highlighted several key factors as enablers including previous life and educational experience.

**Discussion and Conclusions:** SRL is a TC and the awareness of such can also be viewed as an enabler to its development.

**Take-home Messages:** Acknowledgement of SRL as a TC assists staff and LCs to support students in their development as SRLs. The goal is the development of the student as a practitioner who is a life long learner.

## #4Q Short Communications - Threshold Concepts

### 4Q5 (939)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 0.15, Level 0

### Broaching the Unbroachable: an evolutionary, inter-professional education simulation to safeguard children

#### AUTHOR(S):

- Rachel Carter, University of Plymouth, UK (Presenter)
- Andrew Kelly, Faculty of Medicine and Dentistry, University of Plymouth, UK
- Paul Fisher, Peninsula Medical School, UK
- Nicola Smith, School of Nursing and Midwifery, University of Plymouth, UK

#### ABSTRACT

**Background:** The majority of serious case reviews identify communication difficulties between professionals as being central to inadequate safeguarding of children. The importance of inter-professional learning (IPL) has been purported as a way forward in several key reports. Currently the University of Plymouth's medical and nursing programmes deliver simulation based IPL. However, this is confined to critical emergency scenarios and to final year students. The important area of safeguarding has been developed with minimal inter-programme collaboration which has led to differences in student exposure to safeguarding education. This topic is recognised as being challenging to teach and is an important area in relation to threshold concepts and inter-professional skill acquisition.

**Summary of Work:** Three iterations of a role-play simulation were undertaken with 12 senior child health nursing and medical students based around a safeguarding intervention in an emergency department setting. Students were allocated roles as either a parent, nurse or doctor and given underpinning background information. The Six Steps IPL Debriefing Framework guided the simulation. The simulation and debrief were filmed for student reflection. A quantitative and qualitative evaluation was undertaken.

**Summary of Results:** Responses to the quantitative questions were very positive and 90% of participants strongly agreed or agreed that the simulation was beneficial to their learning and practice. There was a notable difference between the areas of perceived gain by the two disciplines. Interesting themes arose around difficult communication, parent perspectives, hierarchical issues and benefits of IPL.

**Discussion and Conclusions:** Students clearly valued the simulation and stated that it had improved their knowledge and skills in safeguarding. They found the IPL aspect of particular significance as it challenged views of professional roles in relation to safeguarding knowledge and practice. The importance of inter-professional collaboration was clearly identified and therefore this should be considered a threshold concept when developing safeguarding education.

**Take-home Messages:** Students value IPL activities. There is a need to increase safeguarding learning across both student groups. Findings highlighted that inter-professional collaboration in challenging areas should be developed as a threshold concept within our curricula.

## #4R Short Communications - Postgraduate Education 2

### 4R1 (2918)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.16, Level 0

### An Escape Game as a Residency Orientation Experience

#### AUTHOR(S):

- Darius Beh, National University Health System, Singapore (Presenter)

#### ABSTRACT

**Background:** An escape game is a physical team-based adventure game in which players find hidden clues, solve puzzles and complete tasks to escape a room in a limited amount of time. Inspired by video games and fuelled by social media, escape rooms have experienced an exponential rise in popularity, and are now ubiquitous in most global cities. Escape games and simulation-based education have a number of similarities - both are problem-based, collaborative, and require interaction with physical aspects of the game " and as such can be employed as an innovative tool to enhance post-graduate medical education. Prior to the start of Residency, first year Internal Medicine Residents at the National University Health System (NUHS), Singapore, undergo an orientation program in order to familiarise them with institutional practices, resources and prepare them for common on-call scenarios. The curriculum was previously delivered through a combination of didactic lectures and small group teachings.

**Summary of Work:** In April 2018, this was replaced by an immersive experience with a series of five interconnected escape games, designed to incorporate the learning objectives of the orientation curriculum. The premise was a 'viral outbreak' held in a colonial ex-military hospital. 30 new Internal Medicine Residents piloted the immersive experience and escape games. Residents were subsequently surveyed and asked to grade their learning experience using a 5-point Likert scale.

**Summary of Results:** Through the escape games, Residents were able to demonstrate critical thinking, time-management and teamwork. Residents found the experience to be engaging, enjoyable and fun. They felt less afraid to make mistakes and solve problems through trial and error. Overall, the experience was effective at teaching the learning objectives.

**Discussion and Conclusions:** Escape games are an innovative teaching method that can be both engaging and effective. They can be used to help junior Residents overcome the fear of making mistakes during educational activities and help initiate them in simulation-based medical education. Further research needs to be done to assess the use and effectiveness of such gamification in medical education.

**Take-home Messages:** Escape games are an innovative twist to simulation-based post-graduate medical education.



## #4R Short Communications - Postgraduate Education 2

### 4R2 (2564)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.16, Level 0

### Residents juggling identity, emotions, and power in performing the collaborator role

#### AUTHOR(S):

- Charlotte Søjnæs, CAMES, Denmark (Presenter)
- Anne Mette Mørcke, CAMES, Denmark

#### ABSTRACT

**Background:** Residents identity processes and emotions have little room in the formal curriculum. Identity processes and emotion management are primarily learned informally in clinical communities of practice as a part of everyday routines and hidden curriculum. Professional identity is formed in tacit social processes or through the type of narratives told about not only ones own profession but also about the neighboring professions and is constantly being negotiated in social interactions. We, therefore, set out to explore residents' identity processes and emotions in collaborative interactions with nurses in postgraduate medical education.

**Summary of Work:** Eight residents participated in in-depth interviews that methodically highlighted identity processes. Their eight formal supervisors participated in shorter semi-structured interviews focusing on physician learning and supervision. Further, an observational study was performed using an ethnographic approach focusing on the residents at work in the clinical departments. Observation field notes and interview transcripts have been analyzed with qualitative methods for interpretation.

**Summary of Results:** Residents experienced collaboration with nurses as a vulnerable and sensitive interaction embedded in power relations. Challenges were related to three major themes: Authority/leadership, Gender/experience, Conflict management/power which all linked closely to residents' identity processes and emotions. Narratives told about ones own profession and about neighboring professions were used as a guiding point shaping the identity processes in the clinical departments. These narratives were informal and were not mediated or challenged by supervisors.

**Discussion and Conclusions:** The collaborator role contains essential learning opportunities connected to residents' identity processes and emotions, that are not being capitalized upon educationally. Supervisors paid little attention to the collaborator role and residents did not perceive collaboration as a part of the formal curriculum, but rather as something learned from role modeling, imitation and from observations of other residents trying to avoid repeating their mistakes. Focus on collaboration could benefit not only residents' identity processes and emotion management, but also the working conditions and patient care.

**Take-home Messages:** In work-based education, learning and collaboration are social activities embedded in different power relations. Hence, the ability to understand power relations and how to negotiate power will benefit future resident education.

## #4R Short Communications - Postgraduate Education 2

### 4R3 (1386)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.16, Level 0

### Another layer of complexity: dealing with complexity in out-of-hospital residency training

#### AUTHOR(S):

- Nelleke Noeverman-Poel, Amsterdam UMC, Vrije Universiteit Amsterdam, the Netherlands (Presenter)
- Sayra M. Cristancho, Schulich School of Medicine and Dentistry, University of Western Ontario, Canada
- Nynke van Dijk, Amsterdam UMC, University of Amsterdam, the Netherlands
- Cees M.P.M. Hertogh, Amsterdam UMC, Vrije Universiteit Amsterdam, the Netherlands
- Esther Helmich, University Medical Center Groningen, University of Groningen, the Netherlands
- Martin Smalbrugge, Amsterdam UMC, Vrije Universiteit Amsterdam, the Netherlands

#### ABSTRACT

**Background:** Doctors in out-of-hospital settings are increasingly being confronted with complexity, among other things because of the rising number of patients with complex problems and the shift of complex care towards out-of-hospital settings. Therefore, it is important that residents in those settings are prepared for dealing with complexity. In this study we aimed to gain more insight into what complexity looks like in out-of-hospital settings and how residents learn to manage complex cases.

**Summary of Work:** We asked 17 residents and supervisors in two out-of-hospital residency programs in The Netherlands (General Practice and Elderly Care Medicine) to create a Rich Picture of a complex situation, followed by a semi-structured interview. The analytical process involved 1) open coding of the interview transcripts 2) analysis of the drawings 3) focused and theoretical coding of the transcripts, informed by the analysis of the drawings.

**Summary of Results:** Drawings were populated with buildings, vehicles, phones and arrows. These symbols represented collaboration between multiple care providers, transitions of patients between systems and the involvement of multiple institutions (e.g. hospital, nursing home, General Practice) or systems (e.g. mental health care, home care) for one single patient. These situations were highly challenging for residents: it was, for example, difficult for them to coordinate care when multiple professionals were involved. Residents had to learn to navigate different systems and to collaborate across institutions. Supervisors helped them by unraveling different aspects of complex cases, pointing at possible pitfalls and explaining how systems work and how to collaborate with other professionals.

**Discussion and Conclusions:** In the literature, complexity in medical training involves medical, social or systemic aspects. In this study, 'intersystem complexity' arose as new layer of complexity that residents face during their training. It is important to recognize this type of complexity in medical education, as it requires different supervision strategies; in particular making intersystem complexity explicit, and discussing different ways to coordinate care across systems. Further research should focus on teaching strategies to learn residents deal with intersystem complexity.

**Take-home Messages:** Intersystem complexity is an important feature of complexity in out-of-hospital residency training and requires specific supervision strategies.

## #4R Short Communications - Postgraduate Education 2

### 4R4 (1943)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.16, Level 0

### Impact of Increased Preparation Time for Residents Before Ward Rounds: The MED2DAY Study

#### AUTHOR(S):

- David Gachoud, Lausanne University Hospital, Switzerland (Presenter)
- Matteo Monti, Department of Internal Medicine, Lausanne University Hospital, Switzerland
- Pedro Marques-Vidal, Department of Internal Medicine, Lausanne University Hospital, Switzerland
- Vanessa Kraege, Department of Internal Medicine, Lausanne University Hospital, Switzerland
- Oriane Aebischer, Department of Internal Medicine, Lausanne University Hospital, Switzerland
- Antoine Garnier, Department of Internal Medicine, Lausanne University Hospital, Switzerland

#### ABSTRACT

**Background:** In 2015, we conducted a time and motion study in our Department to describe residents time allocation during their shifts. We found that residents switched from one task to another up to 15 times per hour, highlighting the fragmented nature of residents work. To address this issue, we decided to reform the work schedule and asked residents for their input. One point of improvement concerned a lack of preparation time before ward rounds. This led us to postpone the start of rounds by one hour.

**Summary of Work:** We sought to assess the impact of an increased preparation time on (1) the rounds duration and (2) the allocation of residents time during rounds. Therefore, we repeated the same protocol as in 2015. Between May and July 2018, trained observers followed residents and recorded 22 predefined activities. Results were expressed as mean (95% confidence interval) or percentage. We adjusted results for number of patients cared for.

**Summary of Results:** We recorded a total of 49 day shifts in 2015 and 63 day shifts in 2018. On average, ward round duration was reduced by 25 minutes (95% CI 39 - 11;  $p < 0.001$ ), from 118 minutes in 2015 to 93 minutes in 2018. Time allocated to patients decreased by 18 minutes, while the percentage of round time allocated to patients remained stable, corresponding to about half of the round. The most important evolution relates to computer use: the time spent with a computer was reduced by 25 minutes. A limitation of the study is that quality indicators of the rounds were not measured.

**Discussion and Conclusions:** We found a 25-minute reduction in both round total duration and time spent with a computer. This is certainly a gain in efficiency for residents and nurses, both of which are better prepared and less likely to look for information during rounds. However, we observed a reduction of the time spent with patients, an unintended consequence of our reform.

**Take-home Messages:** Residents need appropriate time to prepare before ward rounds. Measures targeting ward round should include both the preparation time and the round process itself.

## #4R Short Communications - Postgraduate Education 2

### 4R5 (1272)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.16, Level 0

### Thinking beyond trainee feedback alone: High-stakes postgraduate medical training review using Activity Theory

#### AUTHOR(S):

- Jon Cooper, Medical Education Leeds, Leeds Teaching Hospitals NHS Trust, UK (Presenter)

#### ABSTRACT

**Background:** Postgraduate medical education quality is subject to regulation through the General Medical Council (GMC) and enforced through locality offices (e.g. Health Education England [HEE]). This focusses on trainee feedback from national surveys or review of local hospitals. If feedback serially falls below expected standards, serious sanctions can be imposed, including trainee withdrawal. Despite interventions, we experienced continual poor feedback from Foundation trainees (FTs) in Trauma and Orthopaedics (TO) at our hospital, with the threat of trainee removal. We looked at a whole socio-cultural system, including trainees, with the aim to improve training in TO.

**Summary of Work:** We used Activity Theory to observe the entire work in TO, beyond just the FTs (subject); TO trainers, other ward staff, department of medical education, HEE (community); GMC / HEE Quality standards; foundation curriculum (rules); formal teaching activities, supervision (tools); informal teaching / supervision, non-clinical tasks, clinical-educational engagement and leadership (division of effort). Through several days of direct trainee observation in practice, clinical-management engagement; findings and solutions were shared, and the subsequent impact of interventions reviewed - rapidly enabling improvement in FTs training (object) and the wider educational environment (outcome).

**Summary of Results:** FTs in TO were initially disengaged, unfulfilled in an unsupervised clinical environment with a high workload. Trainers and managers underappreciated the problems. Identification of system-wide barriers to training led to shared trainee-trainer-manager solutions (e.g. additional workforce, rota re-design, dedicated training time, augmented ward supervision). After implementation, trainees felt empowered, engaged and part of a team.

**Discussion and Conclusions:** Identifying an activity system to understand the dynamic interactions within Foundation Training in TO provided a deeper-understanding of the whole training system rather than information reported by FTs alone. Shared findings and awareness of roles within a system were key to developing manageable solutions. This methodology improved FTs satisfaction, creating a more supported and sustainable training environment.

**Take-home Messages:** Activity Theory provides a framework for observing a whole social-cultural training system rather than just one user (trainee) and should be considered when assessing any postgraduate training environment.

## #4S Short Communications - Management 1

4S1 (293)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.51, Level 0

### What does innovation mean and look like? A perspective from the Medical Education Innovation Network (MEIN)

#### AUTHOR(S):

- **Martina Johnson, Faculty of Medicine, University of Southampton, UK (Presenter)**
- Susie Rebelo Hopkins, Faculty of Medicine, University of Southampton, UK
- Scott Border, Faculty of Medicine, University of Southampton, UK
- Jacquie Kelly, Faculty of Medicine, University of Southampton, UK
- Judith Holloway, Faculty of Medicine, University of Southampton, UK
- Anna Ruff, Faculty of Medicine, University of Southampton, UK

#### ABSTRACT

**Background:** In recent years innovation has become a ubiquitous term in education circles. The drive and desire to innovate represents all that is new and exciting in teaching as well as suggesting a culture of flexibility that reflects the changing demands of the educational landscape. Educational innovators seek knowledge to support new ideas or instructional techniques that can reach students in more effective and exciting ways. However, these applications remain largely untested and should be underpinned by rigorous evaluation before being deployed on a larger scale. The Medical Education Innovation Network (MEIN) is a community of practice within the Faculty of Medicine at the University of Southampton. The aim is to engage colleagues with examples of innovative teaching which are informed by scholarship and research. Through our website and events, the network shares examples of innovative practice in medical education across the wider University and beyond, demonstrating transferability.

**Summary of Work:** This is an ongoing mixed methods study that collected data from the MEIN 2017 conference panel discussion and debate about risk and rewards of innovation and from interviews with participants in the teaching and scholarship podcast series in 2018/19. Qualitative inductive thematic analysis to identify what innovation means and looks like for teachers, clinicians and students will be performed alongside bespoke focus groups, evaluation of sessions delivered and analytics collected from the MEIN website.

**Summary of Results:** This study is currently ongoing and would benefit from a wider discussion at the AMEE conference. Results will be presented alongside the MEIN model for promoting and sustaining innovation in medical education.

**Discussion and Conclusions:** The inaugural MEIN conference brought together UK academics, clinicians and students to debate the risk and rewards of innovation. This spawned a seminar and podcast series with high profile educators who shared their experiences of innovating in the challenging political context of higher education. Over two years, MEIN has brought together scholars from different institutions to share the pitfalls, challenges and triumphs of educational innovation.

**Take-home Messages:** By creating a culture and environment of scholarship, where we can develop and evaluate our practices, we can establish a robust framework to inform colleagues in how innovation develops excellence in teaching.



## #4S Short Communications - Management 1

### 4S2 (173)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.51, Level 0

### Change management: promoting communication and stakeholder involvement

#### AUTHOR(S):

- Sabina Cerimagic, The University of Sydney, Australia (Presenter)
- Priya Khanna, The University of Sydney, Australia

#### ABSTRACT

**Background:** The aim of this research is to analyse organisational change management communication strategies used in curriculum reform. Drawing from our own experience within a large Australian medical school, the authors will drill down on the human factors that challenge communication and change management strategies, to share tips and pitfalls. This interactive workshop will demonstrate how staff empowerment and involvement can positively impact change management.

**Summary of Work:** A change sizing and readiness survey was used; the survey is based on the Awareness, Desire, Knowledge, Ability and Reinforcement (ADKAR) Model. The Survey participants were asked 17 multiple-choice questions and 3 open ended questions. For the multiple-choice questions, participants were given a Likert scale spectrum to choose from.

**Summary of Results:** Some of the most important factors in achieving curriculum change is clear communication and the involvement and empowerment of staff. There is no doubt that if we do not consult widely with our stakeholders, if we did not get them involved via the working parties and committees and if we did not let them have a say, make decisions and listen to their feedback, this curricular change would simply not be possible. The effort to initiate and sustain this new MD curriculum will be significant, despite the trials and tribulations that will undoubtedly occur. This change to the Sydney Medical School's curriculum will lead to developing compassionate, diverse and innovative lifelong learners who work in partnership with individuals and communities to improve health through clinical care, education and research.

**Discussion and Conclusions:** This research shines a light inside insight our 'lessons learned'; taking on board what worked well and why in our project and avoid the mistakes that we have made. This research will challenge the reader to consider, within the context of their own organisations, how stakeholders will be persuaded to 'buy into' a new educational initiative or program in time for 'go-live', so that they are ready, willing and able to adapt to the new environment.

**Take-home Messages:** The key factors in achieving curriculum change are: 1. Clear two-way communications with all relevant stakeholder; 2. Early stakeholder involvement in the change project; 3. Staff empowerment.

## #4S Short Communications - Management 1

4S3 (265)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.51, Level 0

### What are the support needs of healthcare innovators? An analysis of critical success factors and limiting factors

#### AUTHOR(S):

- Kathleen Leedham-Green, Imperial College London, UK (Presenter)
- Gabriel Reedy, Kings College London, UK
- Sian Kitchen, Health Education England, UK
- Josh Brewster, The Health Innovation Network, UK

#### ABSTRACT

**Background:** To create a culture of sustainable, agile learning within a healthcare organisation or network, it is necessary to provide targeted support to healthcare innovators. There is a maturing literature on the range of factors that are reported to support healthcare innovations in becoming embedded and spread. There is however less evidence on limiting factors, or the factors that are critical to their success, due to a gap in the literature on struggling or unsuccessful innovations, or research that compares both successful and unsuccessful projects in a consistent way.

**Summary of Work:** 56 discrete success factors across nine themes were identified from the literature and scoping interviews. A mixed methods survey was sent to 176 innovators from the Health Innovation Network of South London. Responses were received from 65 projects across six categories of success. Respondents rated the impact of each success factor in relation to their project and provided qualitative insights into each of the nine themes.

**Summary of Results:** Analysis of factor variance (Kruskal-Wallis 1-way ANOVA) across categories of success indicated eleven critical success factors with high certainty and a further six with moderate certainty. These were categorised into themes relating to expertise, leadership, organisational fit and structural support and a weaker theme relating to participation. There was an emergent theme amongst narratives of limiting factors relating to the difficulties navigating the boundaries and intersections between organisations, professions, sectors and cultures.

**Discussion and Conclusions:** Conclusions have been drawn via an analysis of the drivers to these factors, providing targeted suggestions for educators who wish to enhance the success of innovation within their organisational context.

**Take-home Messages:** Organisations should provide educational support to healthcare innovators that: 1) provides networking and showcasing opportunities; 2) targets expertise in leadership, implementation science and quality improvement; 3) creates a dialogue between management, patients and innovators so that projects have broad support. Structural change is also needed to: 1) align organisational rewards with patient-level impact and value creation; 2) address the interfaces between services and sectors.

## #4S Short Communications - Management 1

4S4 (1948)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.51, Level 0

### A situated learning approach to delivering collective leadership in healthcare

#### AUTHOR(S):

- Yvonne Ng, National Healthcare Group, Singapore (Presenter)
- Winnie Teo, National Healthcare Group, Singapore
- Nicholas Chew, National Healthcare Group, Singapore

#### ABSTRACT

**Background:** Singapore's healthcare is undergoing extensive change from acute, institution-centric care towards community and team-based healthcare models. Healthcare professionals are concomitantly turning away from the traditional structure of physician leadership towards a model of collective leadership, where the process of influencing members of a unit towards a common goal is distributed among various members as the situation requires. The aims of this ongoing study were to elucidate key elements of collective leadership (CL) and incorporate them in a curriculum for all levels of staff across a large healthcare organization.

**Summary of Work:** A review of the literature on collective, shared or distributed leadership was carried out and a framework describing key CL attributes, patterns of interactions and behaviours was drawn up. The framework provided the foundation for conceptualizing CL at individual, team and organizational levels. However, instead of didactic, mechanistic means of learning, the curriculum was premised on constructivist principles of situated learning theory. As CL is primarily a relational process, this curricular approach would be appropriate to facilitate the cultural and social shifts required for CL development.

**Summary of Results:** Three levels of interaction and the corresponding critical elements required for CL were described; for example, at the individual level of interaction, self-awareness and interpersonal capabilities were key to CL, while at the team level, relationships, team culture as well as task-related and performance capabilities of the team were fundamental to enable CL. Rather than lessons on gaining competencies in these areas, the curriculum was designed to elicit participants sharing about their lived experiences, and use shared narratives to build mutual alignment and commitments.

**Discussion and Conclusions:** The curriculum was first implemented with upper management staff, as positional leaders are fundamental to shaping organizational culture. At the current time, nearly 100 senior leaders from various institutions have undergone CL, about 10% of the final number. Evaluation of the curriculum will involve collation of narratives of social change within the participants' work units.

**Take-home Messages:** A situated learning approach, emphasizing participants' reflections and sharing provides an authentic, motivated learning of CL in healthcare.

## #4S Short Communications - Management 1

### 4S5 (1607)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.51, Level 0

### Models of Educational Leadership operationalised in an NHS Hospital: How effective are they?

#### AUTHOR(S):

- Suzanne Gawne, East Lancashire Hospitals NHS Trust, UK (Presenter)

#### ABSTRACT

**Background:** The delivery of care to patients in the NHS is under increasing financial pressure. The need to continuously improve service delivery and meet targets set by external regulating authorities whilst making financial savings is challenging. Alongside this, Trusts must provide a suitable educational environment that meets the needs of learners in the workplace.

**Summary of Work:** This case study examined the educational leadership models operationalised in a busy Hospital Trust to consider the factors and barriers that affect the quality of workplace based education. Qualitative data was collected through semi-structured interviews with lead educators in the area being studied. Themes from the data identified factors that contribute to the quality of education in the workplace and how leadership structures impact this.

**Summary of Results:** The data revealed Two Global Themes: The Delivery of Education in the Workplace and Leadership in Medical Education within which were further organising and basic themes exploring the challenges and barriers involved in delivering medical education in the workplace. The leadership model identified in this study is more fitting with a transactional model of leadership and the advantages and opportunities for moving to a collaborative approach for the delivery of medical education are discussed with suggestions of how to do this. The study highlights the pressures on front line staff to deliver safe, personal and effective care whilst maintaining the demands of external regulating authorities with a subsequent impact on the quality of training delivered.

**Discussion and Conclusions:** There is general sense of feeling undervalued, stressed due to tensions with delivering education whilst maintaining clinical commitments and a lack of a shared vision between educationalists, clinicians and management. There is evidence to show the value of a transformational and collaborative leadership approach to facilitate the changes needed in an evolving NHS and this requires a move away from the traditional transactional leadership approach that has previously dominated the NHS.

**Take-home Messages:** Trusts must harness and support individuals to help share a collaborative vision for education to be part of everything we do in order to create an educational environment that is supportive to all learners in the workplace and supports the transforming workforce.

## #4S Short Communications - Management 1

### 4S6 (2213)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 0.51, Level 0

### Key Performance Indicators for Evaluating the Educational Effectiveness of Medical Schools

#### AUTHOR(S):

- Claudio Violato, University of Minnesota Medical School, USA (Presenter)
- Tanzeela Khalid, University Medical and Dental College, Pakistan
- Mussurat ul Hasnain, Rashid Latif Medical College, Pakistan
- Sumera Eshan, Faisalabad Medical University, Pakistan
- Manuelli Kavika, The Fiji National University, Fiji

#### ABSTRACT

**Background:** Key performance indicators (KPIs) are the vital signs of a medical school that signal its health in real time. They enable us to examine the workings of a medical school, as well as the strength of governance and management. To be effective, a set of KPIs must account for the major aspects of medical school's performance and assess the components critical for success as well as for social accountability and continuous quality improvement (CQI).

**Summary of Work:** The following KPIs were employed to evaluate the educational effectiveness of medical schools: 1) student selection processes data, 2) standardized student performance data (internationally standardized licensing exams), 3) locally constructed assessments (course exams, OSCEs, etc.), 4) student satisfaction data, 5) teacher effectiveness and faculty sufficiency, 6) institutional effectiveness (student, well-being, learning environment, instructional methods, etc.), 7) financial health (financial data, student debt, tuition, etc.), and 8) value added analyses. Extensive data were employed in a variety of multivariate analyses (e.g., repeated measures, regression analyses, value added analyses, generalizability analyses, analysis of variance) from example schools in the USA, Canada, Pakistan, Sudan, Italy, Saudi Arabia and France.

**Summary of Results:** Several themes emerged from the KPI analysis: teaching and instruction (e.g., faculty development on instructional methods in the classroom and clinical environment), assessment (e.g., direct observation in the clinical environment), curriculum improvement (enhance clinical integration in scientific foundations and basic science integration during clinical education), and enhance student well-being (reduce burnout, improve quality-of-life responses, improve the learning environment).

**Discussion and Conclusions:** The purpose of CQI - closely aligned with program evaluation - is to enhance educational programs, improve the effectiveness of teaching, learning and assessment, foster an optimal learning environment, and generally achieve excellence in medical education programs. KPIs are useful for program evaluation; they depict program activities and outputs needed to achieve the intended outcomes of a program. Value-added also contributes to the students' progress towards stated or prescribed education objectives over time to assess student growth.

**Take-home Messages:** KPIs help to clarify the success of a medical school and what its program is trying to achieve and what it does to get results.



## #4T Round Table – Patient Engagement

### 4T1 (3262)

**Date of Session:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Room L5, Level 1

### Accessibility of Patient Education

#### AUTHOR(S):

- **Giordia Solda, IFMSA (Presenter)**
- Heber Olivia, IFMSA
- Tatiana Zebrova, IFMSA

#### ABSTRACT

**Introduction:** Education accessibility involves creating health-related materials that are designed and presented so that they can be understood by audiences of diverse literacy levels. Certain instructional design principles, along with strategies to enhance readability, help facilitate patient understanding, bridge gaps in health literacy, improve health outcomes, and reduce readmission rates. Medical leaders have identified patient engagement as one of the most critical concerns of health systems during the digital transformation of the healthcare industry.

The presenters will suggest how patients can truly be engaged in the management of their condition.

## #4T Round Table – Patient Engagement

### 4T2 (3425)

**Date of Session:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Room L5, Level 1

### Learning from young patients: two stories

#### AUTHOR(S):

- Susan Kennedy, East Kent Hospitals University NHS Foundation Trust, UK (Presenter)

#### ABSTRACT

##### “What lessons do you think you have for doctors?”

“Believing that the patient really is the expert in their health? The amount of times doctors haven’t believed what I’ve said until they’ve seen it in notes from other doctors. Like ‘I think you must have got that wrong, you’re too young to have that.’”

“It’s your body. And you’re scared. And that needs to be respected.”

“What’s so amazing when you meet it, when it’s done right is the care and attention. You know, when a doctor is really listening. Really looking. When I was in x hospital – I could feel them looking!”

“I felt I had a truly good consultant when she addressed my age – being so young – and being a woman. Nobody had ever talked to me about these things before – I was just a person with DDD.”

“The whole GP thing, I know it’s not their fault, but it’s rubbish knowing you’ve got 10 minutes sitting opposite someone like a job interview. Rarely do I give as much detail as I go in wanting to and there is a dreadful power imbalance. It feels more like an interview than a conversation.”

“In hospital, it’s like you have to sit up and be ok and perform somehow. I’m always thinking, am I doing this wrong? Am I being ill ‘wrong’?”

“The best doctors are the ones that listen, that ask you questions about you. Not just medical questions. They have a proper conversation with you. They have respect for you. I am a human, I have a brain – please allow me to use it in this process!”

## #4T Round Table – Patient Engagement

### 4T3 (1408)

**Date of Session:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Room L5, Level 1

### The Senior Citizen Partnership Program (SCPP): a win-win for both medical students and the elderly generation

#### AUTHOR(S):

- Ute Hauck, Curtin University, Australia (Presenter)

#### ABSTRACT

Doctors require exemplary communication skills and the right attitude to care for the growing number of elderly patients. Early exposure to the elderly in medical courses has been shown to help change student attitudes and challenge thinking in stereotypes. The SCPP runs for the duration of the MBBS course and aims to introduce students to 'healthy ageing'. Two students are partnered with a senior citizen residing in a retirement facility. The students meet their senior partner a prescribed number of times, forming a partnership rather than viewing them as a patient. During these encounters students enquire about social, psychological, environmental and health impacts on the life of the senior, while practicing communication skills taught in clinical skills. Students also attend debriefing sessions and submit reflections about their encounters addressing relevant learning objectives using a reflective framework.

The presenters will talk about the outcomes of the initiative.

## #4U Conference Workshop

### 4U

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room L8, Level 1

### Reviewing for MedEdPublish - enhancing scholarship

#### PRESENTER(S):

- Richard Hays, MedEdPublish Editor
- Trevor Gibbs, MedEdPublish Associate Editor
- Ken Masters, MedEdPublish Associate Editor
- Kerrie McKay, MedEdPublish Administrator
- Claire Macrae, AMEE Education Officer
- Joanne Greer, MedEdPublish Technical Support

#### ABSTRACT

**Background:** MedEdPublish is an exciting new venture in academic publishing, combining post-publication review, rapid processing, low submission costs and academic mentoring for those wishing to contribute to learning within the medical education community. Reviewing papers is an important academic task, but how to compose a review is a skill that needs to be developed. This workshop will introduce AMEE conference attendees to the process of conducting a review and posting a review online, aiming to improve skills and confidence as we expand our pool of reviewers.

**Who should attend?** All conference participants who would like to learn about how to conduct a review of an academic paper are welcome to attend. We are particularly keen to welcome new potential reviewers, as well as to meet with those who have already provided some reviews.

**Structure of the workshop:** The session will begin with a brief overview of the requirements of a review for a paper published in MedEdPublish. We will then work either in small groups or individually to write a review of a recently published paper that we will provide.

Please bring a laptop or tablet with you if you have one available. The aim is to compose a review and submit the review in the journal online during the workshop. Prior to the workshop commencing, it is a requirement that the individual must have an active MedEdPublish account which can be set up via the journal website at [www.mededpublish.org](http://www.mededpublish.org). If you require support in setting up your account, please contact us at [mededpublish@dundee.ac.uk](mailto:mededpublish@dundee.ac.uk) prior to attending the conference.

**Intended outcomes:** Participants should develop a better understanding of how to write a review of an academic paper and posting it online, and should gain confidence in their reviewing skills.

**Level:** All

## #4V Conference Workshop

### 4V (545)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 0.11-12, Level 0

### LILAC: Longitudinal Integrated Leadership Advanced Curriculum

#### PRESENTER(S):

- Paul Crampton, Hull York Medical School & Monash Centre for Scholarship in Health Education, UK
- Jennene Greenhill, Flinders University, Australia
- Ian Couper, Stellenbosch University, South Africa
- Roger Strasser, Northern Ontario School of Medicine, Canada

#### ABSTRACT

**Background:** Longitudinal integrated clerkships (LICs) continue to be implemented in many different contexts and countries across the world in various shapes and sizes. Leadership has been a key proponent in driving this change, both through its enactment within the curriculum and to engage local stakeholders whilst maintaining an excellent educational experience. Social accountability has been highlighted as a key facet in bringing together healthcare structures, medical schools and local populations to foster less fragmented education and coherent service delivery. Through transformative learning experiences, LICs enhance student knowledge about psychosocial determinants of health, develop compassion, and reinforce clinical skills. Learning is facilitated through independent time with patients, which promotes deeper learning about the role of the doctor. The integrated and immersive structure of LICs places students in complex situations, often delivering healthcare for patients in challenging social and economic conditions. In this workshop we will tackle the issues faced when implementing longitudinal integrated clerkships in a range of settings and how to sustain momentum for continuation.

**Who Should Attend?** Educators and students with an interest in longitudinal integrated clerkships and those interested in leading change in community based medical education.

#### Structure of Workshop:

1. Introductions
2. Brief inputs: Supporting local rural clinical academic leaders (Ian Couper) Medical school and faculty leadership (Roger Strasser) Leading change in underserved and disadvantaged communities (Paul Crampton) Preparing students as future leaders (Jennene Greenhill)
3. Small group activity discussions will focus on the following issues in relation to implementation and sustainability of LICs:
  - Social accountability and community engagement
  - Supporting community practitioners as clinical teachers and role models
  - Intense interaction with patients as a driver of student learning
  - Students and alumni as agents of change and continuity.
4. Plenary feedback

**Intended Outcomes:** By the end of this session participants will be able to:

- Describe the key elements of LICs in community settings
- Develop a faculty recruitment and development plan for implementing a LIC
- Outline the facilitators of success in leading LIC implementation

**Level:** Intermediate



## #4W Conference Workshop

### 4W (951)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 0.49-0.50, Level 0

## Sharing is Caring: Designing and Developing Shared Curricular Ecosystems

### PRESENTER(S):

- Tao Le, ScholarRx, USA
- Charles Prober, Stanford University, USA
- Robbert Duvivier, University of Maastricht, Netherlands
- Katerina Dima, IFMSA, Greece

### ABSTRACT

**Background:** New digital platforms are transforming learning in higher education and providing high-quality education content at little or no cost. Educators can now reach large, even global audiences. Yet, many medical schools continue to develop and maintain custom curricular content despite having limited faculty and financial resources. This duplication may be addressed by shared curricular ecosystems with reusable learning materials, developed around core competencies and foundational learning objectives while allowing customization to local needs. Shared ecosystems may have areas of focus defined by geography, curricular domain (eg, assessments), subject matter, primary audience, and other factors. They may also span medical and health professional schools to support interprofessional education. This workshop explores the potential benefits and challenges of such ecosystems and provides participants with the opportunity to design their own.

**Who Should Attend?** Anyone with an interest in designing and developing shared curricular ecosystems that extend beyond a single institution.

**Structure of Workshop:** This highly interactive workshop will feature five components.

1. Introduction: introduce facilitators and identify participants' goals.
2. Principles: discuss potential benefits, requirements, and challenges of a shared curricular ecosystem. Present examples of current and past shared curricular models.
3. Application: in facilitated small groups with worksheets, participants discuss shared curricular needs in their countries/regions and developing a plan to address it.
4. Discussion: participant groups present proposed solutions and discuss benefits and obstacles to implementation.
5. Wrap up: revisit workshop goals and summarize lessons that can be applied in participants' education ecosystems.

**Intended Outcomes:** Upon completion of this workshop, participants will be able to:

1. identify benefits and challenges to developing a shared curricular ecosystem
2. discuss examples of shared curricular ecosystems
3. identify shared curricular needs in their countries/regions
4. develop possible shared curricular models.

**Level:** All

## #4X Conference Workshop

### 4X (866)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 0.96-97, Level 0

## Using Conceptual Frameworks to Shape and Situate your Scholarly Work

### PRESENTER(S):

- Maryellen Gusic, University of Virginia School of Medicine, USA
- Sandy Cook, Duke-NUS, Singapore
- Melissa Klein, Cincinnati Children's, USA
- Patricia O'Sullivan, University of California, San Francisco, USA
- Matthew Zackoff, Cincinnati Children's, USA

### ABSTRACT

**Background:** Conceptual frameworks provide a critical foundation for scholarly work in education. These theories provide the “lenses” through which we seek to understand the complex phenomena of teaching and learning in the health sciences and are fundamental in applying a systematic approach to the design, implementation, and evaluation of educational interventions. Currently, however, the use of conceptual frameworks is not universally applied early in the design of educational activities nor is their use explicitly described by authors of submitted manuscripts, limiting educators’ success in publishing their educational research in the health sciences literature and restricting our collective ability to advance what is known about our current pedagogies and to further elaborate on the frameworks that underlies our work.

**Who Should Attend?** Front-line educators and educational researchers who would like to learn more about conceptual frameworks and are interested in turning an idea for an educational activity and/or research project into a meaningful intervention with clear goals, appropriate methods, measurable and significant results and that has the potential for scholarly dissemination.

**Structure of Workshop:** In this interactive workshop, participants will engage in hands-on exercises to examine how the selection of a conceptual framework in conjunction with the use of established best practices in curriculum/program design and evaluation will enhance one’s work and the ability to investigate and measure the impact of this work. Brief didactic presentations will be used between small group activities to prepare participants to explore various conceptual frameworks and practice applying selected frameworks to design and measure meaningful outcomes related to educational interventions. By completing a structured worksheet and incorporating feedback from peers and the facilitators during the session, participants will leave ready to use this approach in their own work and prepared to engage with the international community of educators in enhancing the rigor of educational scholarship through the use of conceptual frameworks.

**Intended Outcomes:** Participants will gain knowledge and skills through engagement in activities that allow them to apply and practice the concepts being discussed. Attendees will be able to use the feedback of peers and facilitators to create an individual action plan to enhance plans for a current or future educational activity.

**Level:** Intermediate

## #4Y Conference Workshop

### 4Y (582)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.17, Level 2

### Managing & Supporting the Educator in Trouble

#### PRESENTER(S):

- Alistair Thomson, NACT (UK), UK

#### ABSTRACT

**Background:** This workshop will explore the reasons why those involved in teaching and assessing trainees and medical students may have concerns raised about them. It is often the most diligent and courageous educator who gets challenged by their learners and reported to senior faculty.

**Who Should Attend?** This is relevant for all educational leaders, supervisors, educators and those involved in faculty development. The context will be postgraduate but the principles would be relevant to those involved in undergraduate education.

**Structure of Workshop:** The NACT UK guidelines “Supporting the Educator 2016” will be applied in small groups to real scenarios from UK practice. These guidelines can be introduced into faculty development programmes.

**Intended Outcomes:** There will be a practical approach to managing issues and concerns about individual educator, considering ways to provide support in the hospital & centrally in the University / Deanery with consistency and collaboration.

**Level:** For Postgraduate (and Undergraduate) Faculty supporting and training all trainers. Highly relevant to experienced clinical and educational supervisors.

## #4Z Conference Workshop

### 4Z (2581)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.44, Level 2

### Digital Health: Bridging the Gap in Medical Education

#### PRESENTER(S):

- Lina Mosch, European Medical Students' Association
- Paulius Povilonis, Lithuanian University of Health Sciences, Lithuania
- Justinas Balciunas, Lithuanian University of Health Sciences, Lithuania
- Beatriz Atienza Carbonell, University of Valencia Medical School, Spain
- Evangelos Papageorgiou, European Medical Students Association, Greece

#### ABSTRACT

**Background:** Digital health technologies promise to substantially improve healthcare. Yet, they may disrupt the workflow and job profile of future healthcare professionals in the way that digital health literacy and skills in working with new technologies will become prerequisite competencies for future physicians. The European Medical Students' Association (EMSA) initiated a survey to assess the knowledge and opinion of medical students' about digital health and its implementation in the medical education curriculum. Our aim was to identify medical students' needs with regard to their education in digital health as well as their training with respective technologies. Results of the survey including recommendations for a meaningful implementation of digital health into the medical curriculum have been presented in the European Commission.

**Who Should Attend?** Anyone who is interested in the topic of digital health and inclusion of new technologies to health professions' curriculum is welcomed to participate. We would welcome both students and educators in order for the topic to be discussed from all different aspects. Especially stakeholders that already experience digital health in the medical curriculum are warmly welcomed to share their practices.

#### Structure of Workshop:

1. Introduction: digital health and digital health literacy
2. Presentation of student-led activities on digital health throughout Europe
3. Main points and conclusions from EMSA's survey on digital health among European medical students
4. Presentation: outcomes of relevant meetings e.g European Commissions eHealth Stakeholder Group, Deans' meeting "Training Future Proof Doctors for the Digital Society"
5. Best practices for inclusion of digital health in health professions' curricula
6. Identification of challenges and concerns on the topic of digital health

#### Intended Outcomes:

- emphasize the importance of keeping the health professions' curriculum up to date with new technology developments
- give some valuable insight of the students' point of views on Digital Health and their needs and expectations for its implementation into the medical curriculum
- offer guidance to students and educators on how to form valuable partnerships to transform their school's curriculum
- share best practices and discuss about ways to meaningfully implement digital health aspects (training with technologies, ethical and legal aspects, communication skills, research opportunities) into the medical curriculum

**Level:** Introductory

## #4AA Conference Workshop

### 4AA (1026)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.61, Level 2

### Workplace-Based Assessment and Entrustment in the AAMC Core EPA Pilot

#### PRESENTER(S):

- William Cutrer, Vanderbilt University School of Medicine, USA
- Sandra Yingling, University of Illinois College of Medicine, USA
- Dorothy Andriole, Association of American Medical Colleges, USA
- Jonathan Amiel, Columbia University Vagelos College of Physicians & Surgeons, USA

#### ABSTRACT

**Background:** Many U.S. medical schools are implementing the AAMC Core EPA framework within their medical school programs. The EPA pilot is implementing this construct using assessments that are meant to be quickly understood by faculty and students. One method to bridge the gap between construct and practice is the workplace-based assessment (WBA) that provides in situ opportunities for assessment of a student's readiness for unsupervised practice. Another integral part of this framework involves making summative entrustment decisions. Institutions are grappling with content, process, logistics, and resources. Workshop leaders will share lessons learned and engage participants in solving practical problems and overcoming barriers to making summative entrustment decisions. The session is designed to be practical, flexible, and interactive so that common challenges are optimally addressed.

**Who Should Attend?** Faculty implementing workplace-based assessments and/or establishing a medical school entrustment process

**Structure of Workshop:** The session will begin with an update about the AAMC Core EPA pilot. Participants will then actively engage in small and large group discussions. Finally, the panel will summarize the approaches generated by the discussion.

1. Introductions (5 min)
2. Brief overview of EPAs and WBA (10 min)
3. Determination of participants experience with EPAs (polling) (5 min)
4. Description of pilot school's approaches to workplace-based assessment (10 min)
5. Small group exploration of implementation challenges (10 min)
6. Large group debrief (10 min)
7. Brief overview of summative entrustment determination (15 min) a. Description of entrustment committees at pilot schools b. Identification of implementation successes and challenges
8. Small group exploration of entrustment committee challenges (20 min)
9. Large group debrief (10 min)
10. Summary and wrap-Up (10 min)

#### Intended Outcomes:

1. Discuss workplace-based approaches used by the Core EPA pilot to assess student readiness for entrustment
2. Identify barriers to effective WBA implementation and describe practical solutions
3. Compare and contrast entrustment, clinical competence, and promotions committee processes
4. Discuss barriers and facilitators to the entrustment process

**Level:** Intermediate



## #4BB Conference Workshop

### 4BB (2285)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.83, Level 2

### Writing MCQs to Assess Professionalism and Communication Skills across the Continuum

#### PRESENTER(S):

- Kathleen Holtzman, American Board of Medical Specialties, USA
- Krista Allbee, American Board of Medical Specialties, USA

#### ABSTRACT

**Background:** Although medical educators agree on the importance of assessing communication skills, professionalism, and related topics in medical ethics throughout the continuum, questions often ask for definitions rather than assessing whether trainees can apply their knowledge in areas in making patient care decisions. Insufficient consideration is often given to whether topics are appropriate to test early, late, or throughout training.

**Who Should Attend?** Anyone involved in teaching, writing exams, including directors of introduction to clinical medicine courses, clinical clerkships, and postgraduate training; members of Royal Colleges, specialty boards, and others involved in assessment in the health professions.

**Structure of Workshop:** This highly interactive workshop begins with a pretest assessing participants' awareness of technical item-writing flaws enabling test-wise examinees to answer items correctly when they do not know the content; review of technical flaws/rules for constructing SBA vignette-based MCQs follows. Participants then work in small groups developing a list of important professionalism topics, then compare topic lists followed by discussion of blueprinting assessments across years of training. The full group then reviews sample professionalism scenarios and discuss how scenarios can be used as a stimulus for MCQ and short answer/essay formats for formative and summative assessments. Participants share ideas for modifying scenarios/options to make them easier or harder for teaching and assessing trainees as they progress through the continuum. Participants reconvene into small groups to revise poorly written Professionalism MCQs, then review/compare items across groups and with items provided by the facilitators. In small groups, participants choose a communication scenario and write options focusing on "how to communicate" and discuss revisions with the full group. Video/multimedia to enrich and increase authenticity will also be discussed with sample illustrative videos shown.

**Intended Outcomes:** At the conclusion of the workshop, attendees will:

- Recognize/avoid common technical item-writing flaws enabling test-wise examinees to answer items correctly even when they do not know the content
- Write well-structured MCQs testing application of knowledge related to professionalism/communication skills
- Review/improve MCQs written by others
- Develop and use vignettes/video as stimuli for use in formative and summative assessments
- Understand how to use classifications to blueprint communication skills and professionalism content within and across the continuum

**Level:** Introductory/intermediate

## #4CC Conference Workshop

### 4CC (1810)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.95, Level 2

### Online assessment with the students' own devices: An evidence based and practical approach to eAssessment

#### PRESENTER(S):

- Eeva Pyörälä, University of Helsinki, Faculty of Medicine, Centre for University Teaching and Learning, Finland
- Sanna Siirilä, University of Helsinki, Services for Learning and Teaching Technology, Finland
- Otto Helve, University of Helsinki, Faculty of Medicine, Finland
- Teemu Masalin, University of Helsinki, Faculty of Medicine, Finland
- Debra Sibbald, University of Toronto, Leslie Dan Faculty of Pharmacy, Canada
- Colin Lumsden, University of Manchester, Manchester Medical School, UK

#### ABSTRACT

**Background:** The Universities of Helsinki, Manchester and Toronto have fostered mobile learning and integrated the use of digital learning resources into active learning strategies. In Manchester and Helsinki, the Faculty has delivered students tablet computers for their personal and study use. In Toronto, students are encouraged to use their own devices. An important step in creating a full-scale digital learning environment is to develop a versatile use of online assessment.

**Who Should Attend?** This workshop provides an evidence-based and practical insight into online assessment when using the Bring Your Own Device (BYOD) strategy. We invite all those who are at the outset of or in the middle of fostering formative and/or summative online assessment in their units to share experiences and learn from and with us. The workshop is targeted to all health-care professions, both at graduate and postgraduate level, specialist training and continuing professional development.

**Structure of Workshop:** The workshop is interactive and facilitates active learning. We provide a short overall view of online assessment based on a BYOD strategy and have a vote on the assessment practices in the participants' units. The Helsinki project reports the pilots of students taking summative online examinations and international progress tests with their own devices without an access to the internet or their own files. The Toronto project highlights students' experiences of introducing a versatile online formative assessment format into large group teaching. The Manchester project presents the tool (FORM<sup>2</sup>) developed for capturing, documenting and managing the students' progress at the workplace to provide them timely feedback and foster clinical learning. The workshop participants analyse in groups the advantages and challenges developing formative and summative online assessment and adopting a BYOD strategy in assessment. The workshop is concluded with a discussion and a take-home-message.

**Intended Outcomes:** At the end of the workshop, the participants will be able to

- (1) Outline the principles of formative and summative online assessment,
- (2) Analyse the advantages and challenges of using the students' own devices (laptops, tablet computers and smartphones) in online assessment and
- (3) Recognize the requirements for developing online assessment in their units.

**Level:** Introductory/intermediate

## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD01 (83)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Factors associated with Life Long Learning in Graduates

#### AUTHOR(S):

- Koonlawadee Netsakkasem, Phichit Education Medical Center, Thailand (Presenter)
- Satabongkot Tangtong, Phichit Education Medical Center, Thailand
- Monchai Siribungrongwong, Lerdsin Hospital, Thailand
- Srikalya Wuttinanchai, Phichit Education Medical Center, Thailand

#### ABSTRACT

**Background:** A study of factors associated lifelong learning in Graduates' Identities, Faculty of Medicine Naresuan University. Taking the result to develop teaching and create them continuous lifelong learner.

**Summary of Work:** A survey of PMEC graduates who graduated 1-3 years. The participants were self-administered through the Google form. The questionnaire consisted of three parts. 1. General information 2. Opportunities and Causes to continuous learning 3. Influence factors.

**Summary of Results:** Responded questionnaire are 74% which female and male are equal. The average age was 35.07 years, averaged graduate 2.33 years, as general practice 64.24% fellowship are 35.76%. Found that all of them are continuous learning. The reason for continuous learning are 64.3% for treatment, 21.4% Increase knowledge, 14.3% prepare to fellowship. The method of searching knowledge are 57.1% searching engine, 21.4% training and 14.2% read the journal. Teaching methods that encourage continuous learning are 71.4% Problem based Learning(PBL), 28.6% Evidence based medicine (EBM). Barriers continuous learning are 58.3% difficult access search engine, exorbitant workloads are 25%, the reliability of the data source and the age that is an obstacle are 16.7%. Suggestions for development in teaching is adding search engine and reading analysis medical journal.

**Discussion and Conclusions:** Life Long learning skill is necessary to develop all time. Problem based learning and Evidence Based medicine are the important factors which taking the graduates has life long learning skill. In addition, increasing the potential of technology and increasing the sources of knowledge is important to developing in order for graduates to access more knowledge. Problem based learning, Evidence Based medicine, search engine, and reading analysis medical journal are the factors which encourage life long learner.

**Take-home Messages:** Life long learning skills can be developed by analytical teaching techniques and using technology to search for information.

## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD02 (492)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Improving Conference Social Media Engagement: The AMEE Twitter Story

#### AUTHOR(S):

- Eric B Bauman, Clinical Playground, LLC, USA (Presenter)
- Lisa Paganotti, Ross University School of Medicine, Barbados
- Dr Gregory E. Gilbert, SigmaStats® Consulting, LLC, USA

#### ABSTRACT

**Background:** Social media use has been on the rise globally over the last several years, including use in the medical community for journals, professional organizations, and conferences. Tweets are distributed globally and quickly amplify conference content engaging larger audiences. Recently, medical societies have promoted Twitter use at conferences promoting discussion and engagement of both attendees and colleagues unable to attend conferences. To our knowledge baseline, Twitter data do not exist for AMEE conferences.

**Summary of Work:** Our study focuses on Twitter use at the 2018 AMEE conference providing a baseline of Twitter use in preparation for further analysis. Each day Twitter data was exported and downloaded. Data for the conference were combined and descriptive statistics generated using R version 3.4.3 (Vienna, AT) software.

**Summary of Results:** Unique Twitter handles accounted for 55% of conference registrants. A Twitter handle is the unique identifier or nickname identifying a user engaged in the Twitter social media platform. Eleven Twitter handles made up the top quartile of unique tweets. The number of tweets peaked on days three and four of the conference (3593 & 3590, respectively). The unique handles tweeting for days one through five were; 216, 621, 985, 944 and 629. Unique content represented 37% of the tweets. The most common hashtags used were #amee2018 (49%) and #meded (12%). The remaining hashtags represented less than 2% each.

**Discussion and Conclusions:** Twitter is a useful tool for timely dissemination of medical education information at AMEE conference allowing those not attending to gain value from the conference and participate in knowledge sharing. As with other medical organizations sponsoring conferences, Twitter can be used by AMEE to enhance conference experience generating interaction between attendees as well as those worldwide. We encourage AMEE to investigate novel uses of Twitter for conference learning and engagement such quizzes about conference presentations and facts about the conference venue.

**Take-home Messages:** Baseline Twitter data has been documented to allow for future comparisons of engagement in social media during AMEE conferences. To maximize the conference experience, AMEE can use this information to broaden the audience and social media engagement of participants.

## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD03 (804)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### A pilot study on feasibility and acceptance of a learner-centered e-journal as a continuing education program for medical technologists in Taiwan

#### AUTHOR(S):

- Chiao-Ni Wen, Department of Laboratory Medicine, Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan (Presenter)
- Hsiao-Chen Ning, Department of Laboratory Medicine, Linkou Chang Gung Memorial Hospital, Taiwan
- Pi-Yueh Chang, Department of Laboratory Medicine, Linkou Chang Gung Memorial Hospital, Taiwan
- Tsung-Han Yang, Department of Medical Laboratories Administrative Center, Chang Gung Medical Foundation, Taiwan
- Huey-Ling You, Department of Laboratory Medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Kuo-Chien Tsao, Department of Medical Laboratories Administrative Center, Chang Gung Medical Foundation, Taiwan

#### ABSTRACT

**Background:** Journal-based learning in continuing medical education (CME) appears to be a valuable method of undertaking life-long learning. However, based on current investigations, the challenge for CME providers is to facilitate self-directed learning while taking learners' views and preferences into consideration. This research was conducted to develop a learner-centered e-journal for medical technologists to make CME programs more effective.

**Summary of Work:** We conducted a survey to explore what readers perceived as barriers on CME through an online questionnaire among medical technologists. After that, this journal was designed to remove readers' barriers on CME and available in e-book format. Finally, a multicenter cross-sectional study was conducted in 2018 among 294 medical technologists in Taiwan through an online structured questionnaire regarding readers' sociodemographic factors, feasibility, acceptability and overall satisfaction of this e-journal after their reading. This study was approved by the Ethics Committee of Chang Gung Memorial Hospital (IRB no. 201800144B0).

**Summary of Results:** The questionnaire was completed by 133 medical technologists from 2 medical centers. Based on our pilot study, long articles were the strongest barrier on CME, and the lack of time was the moderate barrier among medical technologists. After reading the e-journal, 82.6% of medical technologists reported the lengths of articles in e-journal are optimal, and they had high willingness to assess this journal. They also reported good satisfaction about the content of the e-journal and the feasibility of assessing e-journal, the average scores were 4.11 and 4.18 out of 5. As for the overall satisfaction, the average scores were 4.14 out of 5.

**Discussion and Conclusions:** This presentation describes a strategy for developing an e-journal to support the learning of advancements in knowledge and technology for medical technologists at their own convenience. Based on our survey, most of medical technologists took the positive attitude toward the learner-centered e-journal. It is hoped that a well-designed format combining journal-based learning with learner-centered learning will prove of value in the field of continuing medical education.

**Take-home Messages:** To make on-line CME programs more effective, it is important to facilitate self-directed learning while taking learners' views and preferences into consideration.



## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD04 (926)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Participation in Clinical Nursing Education and Continuing Education Needs of Clinical Nurses

#### AUTHOR(S):

- Eunhee Hwang, Wonkwang University, Republic of Korea (Presenter)
- Sujin Shin, Ewha Womans University, Republic of Korea
- Youngmi Kang, Kyung Hee University, Republic of Korea
- Hyunjoo Oh, Ewha Womans University Mokdong Hospital, Republic of Korea

#### ABSTRACT

**Background:** Nursing education should be integrated with clinical practice because nursing is a profession based on practice. Nursing students, new nurses, and career nurses need to be educated in the clinical field. In Korea, there is little clinical nursing education other than preceptor training for new nurses. Thus, this study aims to examine the actual status of participation and perception of the role in clinical nursing education, and continuing education needs of the clinical nurses.

**Summary of Work:** This study used a cross-sectional design. A convenient sample of 565 nurses who had more than one year of clinical experience was recruited from sixteen hospitals in Korea. Self-reported questionnaires were used. Data were analyzed using descriptive statistics, chi-squared test, t-test and ANOVA.

**Summary of Results:** Among the subjects, 73.3% experienced in providing clinical nursing education and their subjects were 57.0% of new nurses, 45.1% of nursing students, and 31.5% of career nurses. The main teaching method was one to one education (preceptorship). Clinical education experience was significantly different according to age ( $\chi^2=47.673$ ,  $p<.001$ ), position ( $\chi^2=51.258$ ,  $p<.001$ ), academic background ( $\chi^2=41.180$ ,  $p<.001$ ), career ( $\chi^2=60.704$ ,  $p<.001$ ), number of beds ( $\chi^2=10.998$ ,  $p<.001$ ). Burden of education work was significantly different according to age ( $F=18.971$ ,  $p<.001$ ), position ( $F=13.647$ ,  $p<.001$ ), academic background ( $F=22.180$ ,  $p<.001$ ), career ( $F=22.080$ ,  $p<.001$ ), number of beds ( $F=4.275$ ,  $p=.005$ ). The subjects of education preferred by the nurses were the priority of the latest nursing practice standard, the simulation nursing education, and the role of clinical nursing educator, and preferred the education by the small group workshop method.

**Discussion and Conclusions:** Most of the clinical nurses had experience in providing clinical nursing education. However, relatively few nurses had completed clinical nursing education. In addition, the burden of clinical nursing education work was high, and accordingly, nurses perceive the necessity of the continuing education, which was recognized higher as the age, position, and career were higher.

**Take-home Messages:** Despite the growing need for clinical nursing education in Korea, the clinical nursing education system has not yet been established. Therefore, it is necessary to develop a concrete clinical nursing educational system, and to develop and operate a systematic continuing education program according to the position and career of the nurse.

## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD05 (973)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Opportunities and Challenges of attending Continuing Professional Development in Myanmar

#### AUTHOR(S):

- Wunna Tun, Myanmar Medical Association, Myanmar (Presenter)
- Tin Tin Hla Mya Win Hnit, Myanmar Medical Association, Myanmar

#### ABSTRACT

**Background:** Continuing Professional Development is a fundamental part for all doctors as medicine advanced quickly and it is the doctors duty to keep abreast with latest development in order to provide a safe and high quality care to the patients. Lack of continuous quality improvement undermine the quality of healthcare offered by doctors in Myanmar. Accreditation in CME will encourage doctors to do continuous quality improvement. However, every doctor cannot attend CME programs offered by Myanmar Medical Association. The courses are still lacking systematic, comprehensive, accredited and regulated environment. MMA is the only provider in Myanmar conducting CME activities for all doctors as an imperative to nurture a culture of lifelong learning.

**Summary of Work:** We have conducted questionnaires to attendee at one of regular CME session. They were asked about why they are attending CME and CPD organized by MMA and challenges facing to attend these courses.

**Summary of Results:** We found that doctors attending CME are mainly to keep abreast with their medical knowledge and lack of post graduate degree or specialist training. Majority of respondents have busy clinical work as barrier of attending CME followed by having no one to relieve them, transportation distance from course venue, cost fees, family responsibilities, lack of support from seniors and loss of Income due to absence from clinic.

**Discussion and Conclusions:** Doctors prefer to attend course that encourage actively participation rather than online learning. Doctors working in rural region have more knowledge gap as they have difficulty in attending the course in urban. There is no reimbursement program offered by hospital and clinic in Myanmar. The major barrier is doctor shortage in hospital and hospital appoint more doctors is essential. Doctors who want to do CME need to fund themselves and hospital allocate funding for all doctors in hospital is needed. There need to be development on eLearning system for all practicing doctors in Myanmar. To conclude, Ministry of Health and hospital administrator have to fulfill the need of barrier for CME participation to have high quality health care offered by Myanmar doctor.

**Take-home Messages:** Every doctor in the country wherever they will be able to access CME should be necessary.

## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD06 (1831)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Non-compliance to Continuing Professional Development requirements: Perspective of the Emergency Medical Care Practitioners in a resource poor setting

#### AUTHOR(S):

- **Anthonio Adefuye, Division of Health Sciences Education, Office of the Dean, Faculty of Health Sciences, University of the Free State, South Africa (Presenter)**
- Bradley Paul Sookram, Department of Emergency Medical Sciences, Cape Peninsula University of Technology, Bel, South Africa
- Chantel van Wyk, Division of Health Sciences Education, Office of the Dean, Faculty of Health Sciences, University of the Free State, South Africa

#### ABSTRACT

**Background:** In 2002, the Health Professions Council of South Africa (HPCSA) made Continuing Professional Development (CPD) a mandatory requirement for all registered healthcare practitioner. However, the latest (2017/2018) HPCSA report states that there is still a general low level of compliance to CPD requirements by Emergency Medical Care Practitioners (EMCPs) nationwide.

**Summary of Work:** This was as a descriptive study that made use of a questionnaire survey to obtain both quantitative and qualitative data on factors that hinder compliance to CPD requirements by EMCPs in a poor resource setting such as the Free State province of South Africa.

**Summary of Results:** A total of 247 of the initial 261 questionnaires distributed were returned, giving a response rate of 94.6%. More than half (50.6%) of the EMCPs indicated, that they are not knowledgeable on the HPCSA recommended CPD requirements for EMCPs and 54.0% of them stated that they do not have a CPD portfolio. Factors that hinder attendance at CPD activities as stated by the EMCPs includes; lack of information about the CPD activities (72.7%); cost of attending CPD events (70.6%); limited availability of CPD activities (70.6%); transportation (68.5%); timing of CPD activities (68.2%); difficulty in getting nominated to attend CPD activities (65.5%); and lack of personal funds (65.1%). Furthermore, EMCPs indicated that lack of internet access (45.5%) and poor knowledge of how to use the internet (15.2%) hinder them from accessing the internet for professional learning.

**Discussion and Conclusions:** To provide the best care to patients, healthcare professionals must commit to lifelong learning. In South Africa, the Health Professions Act, 1974 (Act No. 56 of 1974) (as amended) endorses CPD as the means for maintaining and updating professional competence, as well as ensuring the best possible service to the community. Identifying factors that hinder compliance to CPD requirements will inform plans for future CPD activities.

**Take-home Messages:** This study highlights factors that hinder compliance to CPD requirements by EMCPs in a resource poor setting.

## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD07 (1929)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Applying the ECHO model in the continuous medical education of specialists of AIDS centers in Kazakhstan

#### AUTHOR(S):

- Raushan Issayeva, Al-Farabi Kazakh National University, Kazakhstan (Presenter)
- Zhanna Trumova, Kazakh Medical University of Continuing Education, Kazakhstan
- Symbat Abzaliyeva, Al-Farabi Kazakh National University, Kazakhstan
- Aigerim Aliakparova, Al-Farabi Kazakh National University, Kazakhstan

#### ABSTRACT

**Background:** AIDS centers specialists need in additional training on specific HIV/AIDS issues in order to enhance their professional skills, preferably in the workplace. One of the special issues is the management of patients with neurocognitive and mental disorders due to the use of psychoactive substances. These changes can be associated with both of the drugs using and brain damage due to HIV infections, which makes it difficult to correctly assess their condition and has a strong influence on the tactics of their treatment. The ECHO® project (Extension for Community Healthcare Outcomes) was developed by the University of New Mexico, USA in 2003 and with positive results is being implemented in more than 15 countries of the world. Within the framework of the project, training was held for doctors of AIDS centers in Kazakhstan.

**Summary of Work:** The aim: To evaluate the effectiveness of ECHO® training for doctors on HIV infection among injecting drug users and other psychoactive substances in Kazakhstan. For the period of 2016-2018, 142 clinical trials were conducted on the cases presented by the listeners themselves. The analysis of each clinical case was carried out in the form of an extended consultation of doctors of various specialties. Video session provided once a week, 2 sessions, 60 minutes each. The project was attended by 24 AIDS centers in 16 regions of Kazakhstan. 106 doctors were enrolled: infectious disease specialists, internists, pediatricians, obstetrician-gynecologists, dermato-venereologists, TB specialists, neurologists, psychiatrists, oncologists.

**Summary of Results:** During the pre-testing before training, only a quarter of the students were able to cope well with the proposed questions (good - 23%, excellent results - 2%), 59% showed satisfactory results, 16% failed. Post-test was conducted on similar topics and complexity of tasks. After training, the results improved significantly - excellent results - 51%, good - 20%, satisfactory - 28%, only one - failed (1%).

**Discussion and Conclusions:** The effectiveness of a live discussion of clinical cases, from the actual clinical practice of the listeners themselves. This format of in-service training has increased the motivation and assimilation of new knowledge and skills.

**Take-home Messages:** Use in distance learning of real clinical situations is effective for learning new knowledge.

## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DDo8 (2569)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Introducing Boot Camp for PGME Interns and Residents in Pakistan

#### AUTHOR(S):

- **Mehak Rajani, The Aga Khan University's Centre for Innovation in Medical Education, Pakistan (Presenter)**
- Professor Charles Docherty, The Aga Khan University's Centre for Innovation in Medical Education, Pakistan
- Muhammad Salman Alam, The Aga Khan University's Centre for Innovation in Medical Education, Pakistan

#### ABSTRACT

**Background:** Expectation of excellence from interns and residents from the very beginning stresses the need for bridging the gap between theoretical knowledge and clinical practice. Worldwide, simulation-based boot camps ease this transition and equip the novice trainees with essential foundation knowledge, technical skills and effective communication. This study analyzes the effectiveness of the first ever boot camp in Pakistan in improving the self-efficacy of PGME interns and residents.

**Summary of Work:** A 4 days-long boot camp was conducted in December 2018 at The Aga Khan University Hospital (AKUH) for newly inducted PGME interns and residents. 10 stations were set up including venous and arterial puncture, urinary catheterization, nasogastric tube insertion, lumbar puncture, central venous catheter (CVC) insertion, infection control, suturing, surgical wound dressing, hospital management software sahl and communication along with BLS certification, using low and high fidelity simulation. 40 residents and 68 interns completed self-administered self-efficacy questionnaire at the completion of boot camp.

**Summary of Results:** There was an overall improvement in the self-efficacy of trainees across all skills. Highest pre-boot camp self-efficacy score was in infection control (74.01, on 0-100 scale, p-value <0.001), while, the lowest was in CVC insertion (20.0, p-value <0.001), sahl software (25.14, p-value <0.001) and communication (26.20, p-value <0.001). Self-efficacy improved the most in CVC insertion (40.13, p-value <0.001), sahl software (49.32, p-value <0.001) and communication (51.38, p-value <0.001), while, the least in infection control (19.66, p-value <0.001) post-boot camp.

**Discussion and Conclusions:** Low pre-boot camp self-efficacy scores with most improvement in 'sahl' software can be explained by the induction of non-AKUH trainees who were not familiar with the system. Low pre-boot camp scores in CVC insertion indicates lack of experience and most improvement in this skill re-emphasizes the effectiveness of simulation-based-education. The analysis supports the effectiveness of boot camp in improving the self-efficacy of new trainees and provides the direction for future planning of boot camps.

**Take-home Messages:** Boot camps provide a safe, forgiving and an experiential learning environment for healthcare professionals and prepare them to thrive in a new hospital setting.



## #4DD ePosters - Continuing Professional Development / Lifelong Learning

### 4DD09 (2711)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### The changing landscape in Canada of CPD/CME targeting physicians: A scoping review

#### AUTHOR(S):

- **Francesca Luconi, McGill University, Canada (Presenter)**
- Elizabeth Wooster, University of Toronto, Canada
- Morag Paton, University of Toronto, Canada
- Meron Teferra, McGill University, Canada
- Andrea Quaiattini, McGill University, Canada

#### ABSTRACT

**Background:** In North America, despite the urgency to implement a widespread significant healthcare reform, change has been slow or non-existent due to the misalignment among health system components. In order to keep up with the healthcare reform, CME/CPD needs to explore those forces that shaped its mandate in the past to better embrace its role as an effective agent of change. This scoping review explores the landscape of CME/CPD in order to identify those forces that have affected the planning, deployment and evaluation of CME/CPD targeting physicians in Canada.

**Summary of Work:** This scoping review followed Arksey & O'Malley's 6-stage framework and covered published and grey literature. The research question was refined based on defining parameters and the type of the target audience. Publications targeting practicing physicians in Canada, published between 2008-2019 in English and French were included. The coding system followed an adaptation of MacIntosh-Murray et al. (2006) thematic analysis of publications in The Journal of Continuing Education in the Health Professions from 1981-2004. Studies were coded independently and reviewed in pairs to ensure accuracy and reliability.

**Summary of Results:** Preliminary results only covers published literature. From the original 3760 references, a sample of 43 articles that met our inclusion criteria were selected. The majority of the target audience were physicians (70%) or physicians working in an interprofessional team (14%). Forty percent of articles focused on continuing education techniques and approaches and 23% discussed clinical content areas. Simulation (39%) and workshops (31%) were the most commonly used instructional methods. Only 12% of articles explicitly cited a theoretical framework. The terms 'CPD' and 'CME' exclusively appeared in 34% and 32% of articles, while 10% used the terms 'CE/CPD' and 'CME/CPD' interchangeably.

**Discussion and Conclusions:** This scoping review explores the forces that influence the changing landscape of CME/CPD in Canada and may impact the alignment between CME/CPD and the healthcare system reform.

**Take-home Messages:** This scoping review aims to contribute to the evolution of the CPD field by: a) keeping physicians up-to-date as clinical practitioners, teachers and scholars, b) informing CPD developers, c) offering an understanding of the Canadian context to licensing, regulatory bodies and policymakers, and d) identifying gaps for future research.

## #4EE ePosters - Curriculum Development

### 4EE01 (592)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

**What are the differential diagnoses that Japanese final-year medical students need to consider for 37 common clinical features defined in the national model core curriculum? A modified Delphi study**

#### AUTHOR(S):

- Yuka Miyachi, Kyoto University Hospital, Japan (Presenter)
- Makoto Kikukawa, Kyushu University, Japan
- Masatomi Ikusaka, Chiba University Hospital, Japan
- Junji Otaki, Hokkaido University, Japan
- Hiroshi Nishigori, Kyoto University, Japan

#### ABSTRACT

**Background:** In Japan, the national model core curriculum for undergraduate medical education was revised in 2016. In the aim of promoting teaching and assessing clinical reasoning competence of medical students, it newly introduced lists of differential diagnoses for 37 common symptoms to be learned in the formal undergraduate curriculum. The purpose of this study was to validate the items in the list based on the consensus among experts in clinical reasoning education to medical students. The research question was 'what are the differential diagnoses that Japanese final-year medical students need to consider for the 37 symptoms listed in the national model core curriculum?'

**Summary of Work:** Using modified Delphi process, we developed a consensus among a panel of expert physician-teachers in clinical reasoning from across Japan utilizing the existing differential diagnosis list (277 items). The expert panels anonymously evaluated the items by a 5-point Likert scale whether the disease should be hypothesized by final-year medical students considering a given symptom and added other diseases if any. We defined the positive consensus as both a 75% panel agreement and a mean of 4 or higher with a standard deviation less than one on the 5-point Likert scale. We conducted this study between September 2017 and March 2018, approved by the institutional research board of Kyoto University.

**Summary of Results:** Twenty-three experts from different medical schools and teaching hospitals across Japan participated as the panel; 22 completed the first and second round (96%). The final consensus list consisted of 275 items (the median of 7), while 79 items of the initial list were eliminated after the second round.

**Discussion and Conclusions:** Though the list developed in this study may be specific to the Japanese context, the validating process thereof would be transferable to other countries to build a national consensus on learning contents. The results can be beneficial in developing a future assessment for diagnostic competence of medical students as well as newly graduated physicians.

**Take-home Messages:** We developed the list of differential diagnoses Japanese medical students should master based on the 37 common symptoms listed in the national model core curriculum.

## #4EE ePosters - Curriculum Development

### 4EE02 (627)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Faculty Reflections about Participating in International Curriculum Development

#### AUTHOR(S):

- **Margaret McDonald, University of Pittsburgh School of Medicine, USA (Presenter)**
- Amar Kohli, University of Pittsburgh School of Medicine, USA
- Russell Schuh, University of Pittsburgh School of Medicine, USA
- Michael Elnicki, University of Pittsburgh School of Medicine, USA
- John Mahoney, University of Pittsburgh School of Medicine, USA

#### ABSTRACT

**Background:** Nazarbayev University School of Medicine (NUSOM), located in Astana, Kazakhstan, selected the University of Pittsburgh School of Medicine (UPSOM) to guide NUSOM's development and model it after UPSOM's curriculum. UPSOM faculty members helped develop NUSOM's curriculum, including travel to NUSOM. This study sought to interview UPSOM faculty members asked to participate in the UPSOM-NUSOM project. We assessed motivations for accepting or rejecting the offer to participate. Those accepting the offer were asked about benefits and negatives.

**Summary of Work:** A one-to-one, qualitative open-ended interview study was conducted. Nineteen UPSOM faculty members participated in 30-minute interviews. Interviews were digitally recorded and transcribed by a second author independently. Two authors independently coded all transcripts and analyzed them for common themes.

**Summary of Results:** Participants believed that reviewing their home courses improved them. One noted, 'going through the entire pulm[onology] course...with fresh eyes...I could see overlaps, holes. I could see jumps in logic.' Most noted an increased sense of altruism and improvement as leaders and educators. Although many eagerly participated, some faculty members expressed concerns or declined to participate. Some interviewees felt angst in sharing the curricula they had worked hard to build. Travel was a challenge, 'I guess the hardest part was being away from my family for a week...' However, the role of new technologies, like Skype, allowed easier communication and sharing of ideas. Participants did note that having a tangible reward for devoting their time would have been ideal.

**Discussion and Conclusions:** This study highlights emotions and outcomes during the process of creating an internationally affiliated medical school. UPSOM faculty members devoted time and materials to the project. Rewards included an improved UPSOM curriculum and personal and professional enrichment. Time constraints and distance were the main challenges participants felt and were the primary reasons others declined. More transparency regarding expectations and the degree of assistance NUSOM needed may have assuaged these fears.

**Take-home Messages:** Building an affiliated medical school internationally requires a dedicated faculty and administrators who provide upfront details on expectations. These themes will help to guide future experiences.

## #4EE ePosters - Curriculum Development

### 4EE03 (805)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Evaluation of the Joint Program for European Medical Studies 2018

#### AUTHOR(S):

- Tudor Calinici, UMF Cluj-Napoca, Romania (Presenter)
- Anca Dana Buzoianu, UMF Cluj-Napoca, Romania

#### ABSTRACT

**Background:** One of the most appreciated ways of gaining memorable and lasting experiences during study years is participation in student mobility. In medical sciences, because of different specific issues, joint programs are less common and usually the students must fit in to a host institution program.

**Summary of Work:** The JPEMS program consists of a semester of pre-clinical teaching, centered on biological sciences and research issues, implemented by a consortium of European universities: Angers (France), Szeged (Hungary), Cluj-Napoca (Romania), Naples (Italy) and Timișoara (Romania). It is fully accredited within the home-institution curricula for all students. Between September 2018 and December 2018, the program was implemented by the 'Iuliu Hatieganu' University of Medicine and Pharmacy Cluj-Napoca.

**Summary of Results:** Twenty-two students from four universities participated in JPEMS 2018, taking modules in Medical English, Medical Informatics and Biostatistics, Immunology, Physiopathology, Medical Genetics, Microbiology, and Medical Research. Forty-five members of teaching staff from all of the universities in the consortium were actively involved in teaching and evaluating the program. The students were assessed using specific tests in Immunology, Physiopathology, Medical Genetics and Microbiology, with the grades for the rest of the modules obtained by the evaluation of a research report.

**Discussion and Conclusions:** There were a lot of challenges, but as a whole, the program was a success. The students were satisfied with both the educational and the social parts of the program. This statement is supported by the evaluations made of the students at the end of each module, at the end of the program, and also from informal discussions between the students and the teaching and administrative staff who were involved in the program.

**Take-home Messages:** Despite the difficulties, joint programs in medical studies can be done and could be successful in the future. In the context of globalization, those programs could be a viable instrument in the education of future health professionals.

## #4EE ePosters - Curriculum Development

### 4EE04 (818)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### International Accreditation of Resuscitation Courses by American Heart Association (AHA) at Sultan Qaboos University Hospital (SQUH), Oman

#### AUTHOR(S):

- Asma Said Al Balushi, Sultan Qaboos University Hospital, Oman (Presenter)
- Shalini Baskaran, Sultan Qaboos University Hospital, Oman
- Abdulhakeem Al Hashim, Sultan Qaboos University Hospital, Oman

#### ABSTRACT

**Background:** Globally, the leading causes of death are heart disease and stroke. Despite the ongoing advances in resuscitation science, cardiac arrest survival rates remain suboptimal for both in and out-of-hospital settings. This study aimed to describe the AHA accreditation journey at SQUH to meet international standard in resuscitation and its contribution to community service.

**Summary of Work:** This retrospective descriptive study included all the data related to AHA courses and community service activities conducted at Directorate of Training & Continuing professional Development (DT&CPD), from December 2013 to December 2018. The data was analyzed using descriptive statistics.

**Summary of Results:** A total of 188 BLS provider/renewal courses were conducted and attended by 3257 healthcare professionals. 661 participants attended ACLS provider/renewals courses and 325 participants attended PALS provider/renewal courses. A total of 291 participants were trained in Heartsaver courses. Community awareness programs in view of heart saver month were conducted. In 2015, a total of 489 people participated in 'Feel the beat' program at Muscat City Centre and in 2018 a total of 2136 students and 297 faculties were trained on 'Hands Only CPR' at SQUH.

**Discussion and Conclusions:** Accreditation process had implemented international standards in resuscitation courses training among the health care providers at SQUH and also extended the service to the community. It is required to assess the impact of standardized training on the survival outcome of cardiac arrest victims at SQUH.

**Take-home Messages:** Internationally accredited courses play an integral role in the training of healthcare professionals for better quality patient care.



## #4EE ePosters - Curriculum Development

### 4EE05 (970)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### A DARE-ing binational medical education program: the Danish-American Research Exchange (DARE)

#### AUTHOR(S):

- Kala Mehta, University of California, San Francisco, USA (Presenter)
- Shomit Ghose, Onset Ventures, USA
- Steve Goodman, Stanford University, USA
- Andreas Kjaer, Copenhagen University, Denmark
- Peter Chin-Hong, UCSF, USA

#### ABSTRACT

**Background:** The overall goal of the Danish-American Research Exchange (DARE) Program is to promote biomedical research collaboration between Danish and US medical institutions and to incorporate disruptive thinking in the program. The program brings five Danish medical students to two universities in the Bay Area, for 10 months. DARE students are introduced to interdisciplinary thinking through the '\$10 Challenge'. This study examines program characteristics, learner outcomes and change in thinking in DARE students.

**Summary of Work:** We conducted a mixed-methods study of DARE alumni over three years (2015-2018, n=15, mean age 24, 73% women). Research metrics included completion of the research project, primary authorship on publications, collaborative authorship on publications, graduation from and intent to pursue a joint MD-PhD. All alumni were invited to a focus group, where probes included 1) transition from USA back to Denmark 2) Changes in thinking/orientation and 3) intention to pursue leadership positions. Focus group discussion was transcribed, redacted and coded using deduce software.

**Summary of Results:** Most DARE students conducted clinical secondary data research projects (70%), followed by basic science projects (20%), health services research (5%) and primary clinical data collection (5%). Research projects represented a wide variety of medical disciplines, with 100% completion. Twenty-seven percent of students were accepted into a PhD program, 60% intend to pursue a PhD program and the remaining 13% were undecided in October, 2018. In terms of publications, the average first author publication rate is 1.8 publications/year per DARE alumni, with the majority showing evidence of bi-national collaboration (60%). From the focus group, key themes were: the value of immersion in a new social/scientific culture, increased confidence, taking scientific risks, learned persistence, gaining an international network and entrepreneurial thinking 'helping' their science.

**Discussion and Conclusions:** This study shows preliminary learner outcome data for the DARE program. Compared to Danish national averages, DARE alumni have high publication rates. Additional benefits include international collaboration as well as qualitative impacts on learners. Future steps are to examine the relationship between markers of disruptive thinking and research productivity.

**Take-home Messages:** Bi-national programs can be potentially useful in stimulating undergraduate medical research. Research outcomes of undergraduate medical learners may be improved by entrepreneurial thinking.

## #4EE ePosters - Curriculum Development

### 4EEo6 (1087)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Scaling expertise to reach local & worldwide learners to positively impact the determinants of health using a massively open online course

#### AUTHOR(S):

- Daniel Nicklas, University of Colorado School of Medicine, USA (Presenter)
- Janet Corral, University of Colorado School of Medicine, USA

#### ABSTRACT

**Background:** Improving health outcomes globally is dependent on providing evidence-based content to learners. Simultaneously, time-pressed faculty need to engage educational solutions that scale their expertise while providing learners with opportunities for deliberate practice. A massively open online course (MOOC) is one strategic way to improve access to asynchronous evidence-based content locally and globally.

**Summary of Work:** Two MOOCs, 'School Health' and 'Newborn Care', were intentionally developed to help practitioners learn and apply knowledge and clinical reasoning skills through case-based activities. Each specialization includes four 1-month courses, ~16 week-long modules, formative in-video questions, weekly summative reflections and case-based activities, peer-peer assessments, and a capstone project. Learners receive feedback and peer-assessments from their global peers as part of intentionally building a global community who can learn with, and from, each other.

**Summary of Results:** The first 3 of 4 total courses in each specialization were launched in January 2019, with enrollments from every continent except Antarctica. Total enrollments for each week-long course are 228, 121, and 169 respectively for the Newborn Baby Care and 126, 185, and 87 respectively for the School Health. All courses are open and free, though enrollees may opt to pay for a certificate. Future plans for program evaluation include: number of course completions, global reach based on completions, qualitative analysis of the capstone project, and analytics of learner engagement with content within the MOOC.

**Discussion and Conclusions:** Education is a reciprocal undertaking. MOOCs fulfill the University service mission to assist underserved populations, while building opportunities for global and local learners to co-create shared knowledge and potentially contribute to a primary care education fund. These education and service programs within the community are chronically underfunded. Third, participating in a MOOC with global reach extends the University's international reputation. Fourth, the MOOC has provided educational scholarship opportunities to faculty and students, and extended our university's capacity to engage in digital education innovations.

**Take-home Messages:** MOOCs have provided a mechanism to scale educational outreach to an international audience to meet local and global education missions.

## #4EE ePosters - Curriculum Development

### 4EE07 (1176)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Developing a Course of Medical Ethics and Law by Using Situation Learning Theory

#### AUTHOR(S):

- Chihchia Wang, Department of Family Medicine, School of Medicine, National Defense Medical Center, Taiwan (Presenter)
- Chung-Pei Fu, College of Medicine, Fu Jen Catholic University, Taiwan
- Jen-Jiaun Liaw, School of Nursing, National Defense Medical Center, Taiwan
- Cheng-Yi Cheng, School of Medicine, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** In the past, the course of medical ethics and law are commonly taught by using lectures and small group tutorials. The challenges are that students lack motivation to learn, and feel hard to apply what they learn in class to the clinical practice. The study purpose was to develop a situation-based course of medical ethics and law for the senior medical students, and examine their qualitative and quantitative learning outcomes.

**Summary of Work:** We developed some case scenarios related to medical ethics and law based on the learning objectives of chapters, and arranged students to visit and observe the court. Totally one hundred and thirty-five senior medical students took this course. The situation-based course was designed to bridge the gap between knowledge and practices, to increase students' motivation, to develop students' empathy to patients, and to improve their communication skills. In addition to classroom teaching, students received 1 hour for court and technical court briefing, and robe fitting, 1 hour for attending the litigation in the public gallery, and 2 hours for discussions, including judges, prosecutors, and physicians. After the class, we examined the students' satisfaction and practicality, and evaluate their knowledge, attitude, and skills on medical ethics and law.

**Summary of Results:** Ninety-seven questionnaires were received (response rate: 71.9%). Most of the students (77.0%-89.4%) were satisfied or very satisfied with the court-based learning. Most of them (80.2%) thought more empathy to patients and better communication skills were developed after the class. 78.2% of them were more interested in medical ethics and law, and 78.1% of them recommended the court-based learning to the underclassmen. The students' qualitative reports suggest that they felt positive about the situation-based learning. They experienced the importance of medical profession, physician-patient communications, respect and empathy to the patients, the information asymmetry, and had confidence in justice of the court trial. The situation-based course is more interesting and practical as compared with other courses.

**Discussion and Conclusions:** Situation-based course bridged the gap between knowledge and practices. It increased students' learning motivation, developed students' empathy, and improved the communication skills.

**Take-home Messages:** Situation-based learning is a creative strategy for helping current medical students in learning medical ethics and law.

## #4EE ePosters - Curriculum Development

### 4EEo8 (1681)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### The 'Learning Cycle' in the Basic Life Support (BLS) Curriculum Develops Students' and Teachers' Outcomes: Successful Multidisciplinary Cooperation for BLS Lessons at Our Medical University

#### AUTHOR(S):

- Ichiro Kaneko, Teikyo Simulation Education Research Center (TSERC), Teikyo University School of Medicine, Japan (Presenter)
- Yasuo Takeuchi, Teikyo Simulation Education Research Center (TSERC), Japan
- Nobu Akiyama, Teikyo Simulation Education Research Center (TSERC), Japan
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- Keiji Maruyama, Teikyo Simulation Education Research Center (TSERC), Japan
- Masafumi Kawamura, Teikyo University School of Medicine, Japan

#### ABSTRACT

**Background:** BLS is one of the core competencies of medical school students. It is based on a common protocol because quality CPR (cardiopulmonary resuscitation) can be carried out by the multidisciplinary professional team. Our simulation education committee provided a BLS protocol, an instruction manual, simulators, and faculty development plan for the common BLS lessons at the school. Development of the faculty and lessons over the years is reported.

**Summary of Work:** For our medical, pharmacy, and medical technology school, we designed a development cycle that consists of creating an instructor manual for teachers (planning); providing BLS lessons with a mutual help among teachers (experience); reflecting BLS lessons with updated guideline (reflection); and providing BLS instructor course (BIC) for teachers with annual update (generalization) after Kolb's learning cycle. Outcome-oriented BLS lessons were designed with skill evaluation test at the end of each BLS class to assess learners' competency. Resources, such as manikins equipped with the real-time feedback device Q-CPRTM, a training room, and a teaching manual were shared. Recently, the real-time feedback function was applied for lesson protocol and was also used for the assessment of students. BIC for teachers was designed as a faculty development (FD) workshop, and the concept of inter-professional peer education was introduced. Lesson plans, feedback, debriefing, and assessment were discussed.

**Summary of Results:** In total, schools conducted BLS classes for 4,055 students during 2015- 2018 with favorable outcomes. For each lesson, multidisciplinary teachers cooperated under the common lesson protocol. The teachers determined that lessons can be carried out with confidence. Meanwhile, BIC for teachers was held five times over four years. Overall, 101 faculty members participated in BIC. The course evaluation questionnaire for teachers participating in the fifth BIC showed overall satisfaction scores of 4.9 out of 5 and relatively low 'facilitation' score of 4.2 .

**Discussion and Conclusions:** With reflective practice, peer coaching, communities of practice in FD, high-quality and sustainable BLS curricula for university students were successfully conducted by faculty. Continuous implementation of classes may contribute to improving the outcome for students and also improving the instruction competency of teachers.

**Take-home Messages:** Multidisciplinary cooperation in FD improves BLS outcomes at our university.

## #4EE ePosters - Curriculum Development

### 4EE09 (2230)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### A year-long medical simulation curriculum for pre-med students: Do you know what you are getting into?

#### AUTHOR(S):

- Robert Sasso, Central Michigan University College of Medicine, USA (Presenter)
- Mena Khan, Central Michigan University College of Medicine, USA

#### ABSTRACT

**Background:** Trends in the U.S. have demonstrated that medical school applicants are looked upon favorably when the applicant has shadowed a physician in practice, served as a hospital orderly, has a physician relative, or has other experiences in actual clinical medicine. Admission committees commonly view these as important exposures to the medical real world, allowing one to make a more informed decision about physician training. Many U.S. medical students express a different sentiment and feel that they are well into their medical training before attaining an understanding of the profession and its demands. U.S. medical schools continue to have a 4-7% overall drop-out rate. Commonly stated reasons for leaving medical school are overconfidence/lack of preparation and picking the wrong profession.

**Summary of Work:** Our Simulation Center was approached by a local college to develop a boot camp for their premedical students as an exposure to actual medical training and expectations. A year-long curriculum of 4 workshops was created as follows: Workshop 1: Introduction to Simulation; Orientation to Simulation Lab; Task training in intubation/CPR; High Fidelity Scenario #1 Workshop 2: Basic Life Support training and certification Workshop 3: Lectures on Acute Coronary Syndrome and Stroke; Participation as first responders in High Fidelity Scenarios: Acute MI and Acute Cerebrovascular Accident Workshop 4: Lecture: Stop the Bleed' and Anaphylaxis'; Participation in High Fidelity Scenarios: Acute Trauma; Acute Shortness of Breath.

**Summary of Results:** Surveyed students after each workshop showed a high level of satisfaction and enthusiasm for the platform. Students were appreciative of the ability to ask clinicians and healthcare professionals progressively more insightful questions about the medical profession.

**Discussion and Conclusions:** Students became increasingly more confident and mature in their approach to the ill patient. Healthy competition was noted in performing medical tasks and developing psychomotor skills. All learners expressed a greater appreciation of the scope and demands of medical training.

**Take-home Messages:** Deciding to train as a physician is a difficult one. A medical boot camp curriculum with realistic training and scenario exposures may allow pre-medical students to attain a greater appreciation of medical training and a medical career.



## #4EE ePosters - Curriculum Development

### 4EE10 (2401)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Developing a Global Health Curriculum in Singapore: Learning Experientially about Social Justice through Engagement with Low-Wage Migrant Workers

#### AUTHOR(S):

- Calvin W.L. Ho, National University of Singapore, Singapore (Presenter)
- Victor Loh, National University Hospital, Singapore
- Teem Wing Yip, Maluk Timor, Timor-Leste

#### ABSTRACT

**Background:** Social justice is a key domain comprising competencies that should underscore and guide global health curricula and professional identity formation in medical schools. This domain is aimed at enabling medical students to analyze strategies that are directed at minimizing health disparities and inequities across socially, demographically or geographically defined populations. This paper reports on a novel global health education intervention spearheaded by a major medical school in Singapore, in partnership with HealthServe, a local voluntary welfare organization that provides free healthcare services to low-wage migrant workers. Through linking global health and community engagement, this global/local intervention suggests that there is a common set of transferable skills (or competencies) that could be adapted and applied in professional identity formation.

**Summary of Work:** While male low-wage migrant workers constitute 13% of the population of Singapore, they are mostly not integrated with the local population and often rendered more vulnerable due to the lack of access to various forms of medical, financial and social support. Through an experiential learning elective during the Family Medicine placement, third (of five) year medical students were provided with the opportunity to engage with these workers through programs offered by HealthServe. A reflective report was submitted by each student at the end of their elective.

**Summary of Results:** A primary aim of the elective was to enable students to appreciate the meaning of their ethical and professional roles and responsibilities of a health care provider in a global health context. Through personal interaction with these migrant workers, they were able to deepen their understanding of the values of respect for persons and person-centered care in professional identity formation. Analysis of their reflective reports revealed themes that could help to guide future pedagogical interventions.

**Discussion and Conclusions:** Awareness of global health issues may be gained experientially without the costs of overseas travel. Reflective learning led to discovery of self, the other, and most importantly, of our common humanity, which is one step in the training of future health professionals to be competent to practise in a globalized world.

**Take-home Messages:** Awareness of global health issues supports professional identity formation and may be gained experientially without the costs of overseas travel.

## #4EE ePosters - Curriculum Development

### 4EE11 (2515)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### How to Market Your Course? Integrating Course Experience with Promotion in Social Media Engages Students in your Classroom

#### AUTHOR(S):

- Hung-Chen Chen, Center for Education in Medical Simulation, Taipei Medical University, Taiwan (Presenter)
- Hao-Yu Chen, Center for Education in Medical Simulation, Taiwan
- Wen-Cheng Huang, Center for Education in Medical Simulation, Taipei Medical University, Taiwan
- Che-Wei Lin, Center for Education in Medical Simulation, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** It is no longer attractive enough to catch students' attention by traditional website if there is a new course going to launch. We thus apply a theory of selling products on the new course we wanted to introduce: a pilot course, by letting few students take part first, to attract more attention and curiosity. Moreover, we shared pictures of what we do during the course on social media and then promote it with infographic before course selection. We hope to increase students' learning engagement and interaction by integrating multi-promoting.

**Summary of Work:** Firstly, we posted information about the course on our Facebook page, with limited participants, encourage students to play a part and share their experiences with others. Secondly, we uploaded pictures to let others know what the course is about while also make it more inquisitive. Finally, we point out the differences between the new course and traditional ones by an introduction infographic.

**Summary of Results:** 1. We conducted 6 pilot courses within 8 eight months. In total, 56 students attended with 4.87 out of 5 on satisfactory scale. 2. 116 students selected the course while there were only 30 seats. The selected students will be chosen by drawing straws. 3. There were 13 posts on our Facebook page in the past year with average 540 people original reached and 130 post engagement. However, the post about this new course has reached 1,284 people and 359 times post engagements.

**Discussion and Conclusions:** The research shows that such promoting way is rather helpful: there is just about a quarter of students who selected the new course can actually be in. The post also topped the page's history on both reached people and post engagement. We can conclude that the method we use is supportive for promoting in terms of students' course selection and engagement.

**Take-home Messages:** Integrating multi-promoting on social media can increase students' learning initiatives, effectively strengthening course introduction and students' learning engagement as well as interaction.

## #4EE ePosters - Curriculum Development

### 4EE12 (2661)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Creating a Global Health Curriculum in Saudi Arabia

#### AUTHOR(S):

- Sarah AlEshaiwi, Harvard Medical School, USA & King Saud University, Saudi Arabia (Presenter)
- Elizabeth Rider, Harvard Medical School, USA

#### ABSTRACT

**Background:** Global Health is an emerging field in medicine that has been introduced in many colleges worldwide but still does not exist in Saudi Arabia's undergraduate medical education curricula. More than 2 million pilgrims from over 100 countries arrive to Saudi Arabia annually making this a unique opportunity for Global Health education however there are no initiatives to expose students to it in the medical curriculum. This paper aims to carry out a needs assessment involving students and faculty perceptions in the Kingdom.

**Summary of Work:** This paper is a questionnaire-based cross sectional study that took place at King Saud University involving 600 students (n=600) and 10 faculty (n=10) interviews. The questionnaire comprised of 17 items and was emailed to students in the clinical years. The faculty were interviewed using 4 open ended questions conducted electronically.

**Summary of Results:** 253/600 students completed the survey (42% response rate). 83% (210) of the students endorsed the introduction of a Global Health course while 17% (43) were not in favor. Half of the students 51% (129) endorsed the course as an elective, and 32% (81) as a compulsory course. The faculty encouraged the introduction of a GH curriculum, acknowledging its benefits and stating the barriers that need to be overcome. The students ranked the GH topics based on the level of interest 1) Disease Outbreaks (76%), 2) Global Burden of Disease (73%), 3) Social Determinants of Health (62%), 4) International Health Systems (60%)

**Discussion and Conclusions:** As of July 2017, King Salman Bin Abdulaziz of Saudi Arabia agreed to give public health a legislative priority and has agreed to adopt public health as priority in order to reduce the burden of disease. This approval reflects the keenness of Saudi Leadership to move forward towards improving health care and ensuring its access to all population groups in the country, making a GH curriculum ideal for such an initiative.

**Take-home Messages:** Both students and faculty at King Saud Medical Colleges are interested in a Global Health curriculum. By learning from universities abroad that have preceded us in this field, we can work on introducing such a curriculum in our medical schools.

## #4EE ePosters - Curriculum Development

### 4EE13 (2712)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Drawing as a Methodology: An Innovative Transitions of Care Curriculum for Postgraduate Year 1 Residents

#### AUTHOR(S):

- Fang-Yih Liaw, Tri-Service General Hospital, Taiwan (Presenter)
- Yaw-Wen Chang, Tri-Service General Hospital, Taiwan
- Chih-Chia Wang, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** Transitions of care is a critical component of medical service. Currently, physicians don't receive much formal education on improving patient care transitions. The draw and write technique is generally employed in the setting of the classroom and increasingly popular in health education research. To develop a sustainable and effective Transitions of Care Curriculum (TCC) and know the potential to enable all resident to participate and improve the quality and relevance of the curriculum, we use draw and write technique, a 'bottom-up tool, to enhance residents' participation.

**Summary of Work:** TCC was delivered to 35 PGY-1 residents in internal medicine rotation at an academic hospital. TCC consisted of didactic lecture, practicing and case sharing. In the beginning of TCC, residents were asked to illustrate their imaginary home in their senior age and explain their lives within. Then, experiential learning occurred through direct patient care at the time of discharge.

**Summary of Results:** The illustrates created opportunities to explore resident's perceptions on transitions of care. The emphasis on the self-experience of drawing and the thematic use of the 'home' and 'when they are getting old' as drawing subject led to reflective discussions about post-discharge care and understanding. That indicated residents had a meta-cognitive awareness of the learning shifts that had occurred, and the sessions provoked constructive self-reflective explorations of transition care.

**Discussion and Conclusions:** This study showed that there may be potential learning outcomes for drawing of their home and disability life. More motivations, beliefs and the impact of such learning elements on PGY-1 residents are needed to explore. Moreover, further research is needed to explore their value and applicability to transitional care education.

**Take-home Messages:** Illustrating the imaginary home in his/her own senior age could create connection and enhance residents' motivation in transitions of care.

## #4EE ePosters - Curriculum Development

### 4EE14 (2989)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### To Inform and Delight: Developing Medical Humanities Course for Medical Students in the Middle East

#### AUTHOR(S):

- Suhad Daher-Nashif, College of Medicine-Qatar University, Qatar (Presenter)
- Tanya Kane, College of Medicine-Qatar University, Qatar

#### ABSTRACT

**Background:** This presentation will shed light on medical students' experiences in learning an elective course on 'Medicine and the Arts' in the Middle Eastern context. Two behavioral scientists in the College of Medicine at Qatar University structured the course aiming to visualize the link between humanities, visual arts, and medical practices

**Summary of Work:** Twenty semi-structured interviews were conducted with year two and year three students, who participated in the course. Following the students' written consent, the interviews were recorded. Transcription and thematic analyses conducted by the researchers to all interviews. For validation, the researchers used triangulation and experts reading qualitative strategies.

**Summary of Results:** The research results revealed the flexibility and openness of medical students to see medical practices in alternative and artistic tools. They approached medical practice, professionalism, patient perspectives and ethics in new ways. The data collected indicates that the students enhanced their skills in observation, reflection, metacognition, criticism and an open mind to different cultures and human differences.

**Discussion and Conclusions:** The course 'Medicine and the Arts' is a powerful tool to change medical students' attitudes towards the role of art and humanities in the medical practice. It provides them with tools to see doctoring from different cultural and behavioral angles and perspectives. Conclusion: Using arts and humanities in medical education can be an excellent way to humanize medicine and also to cultivate and enhance important clinical skills. This can be a leading cause to change medical students' perception of doctoring from only treating the body to healing the body and soul.

**Take-home Messages:** A medical humanities course should be part of the core curriculum in the medical education programs and not an elective course. It is an excellent tool to humanize medicine and enhanced the future doctors' clinical, interpersonal and communications skills.



## #4EE ePosters - Curriculum Development

### 4EE15 (3065)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Medical Education in Mongolia

#### AUTHOR(S):

- **Angela Fan, National Yang-Ming University, Taiwan (Presenter)**
- Urangoo Boldbaatar, National Yang-Ming University, Taiwan
- Russell Kosik, Tenth People's Hospital, Tongji University School of Medicine, Shanghai, China
- Yunung Hsu, National Yang-Ming University, Taiwan
- Qi Chen, Nanjing Medical University, China

#### ABSTRACT

**Background:** Mongolia is located on the plateau of Central Asia, between Russia to the north and China to the south. Its population has reached 3,240,861 in January 2019 with life expectancy 65.7 for male and 74.2 for female. Mongolian people have an enormous need for high quality medical care, however, there are not enough systematic investigation and evaluation of its current medical education system.

**Summary of Work:** Extensive review of literature as well as data from medical universities, the Ministry of Education, Science, Culture and Sports, and Center for Health Development of Mongolia have been acquired and thoroughly examined at the end of 2018.

**Summary of Results:** The National System of Higher Education in Mongolia had significantly changed over the last 25 years. Numerous private universities had entered the system since. Currently, there are eight medical universities and colleges with four state and four private in Mongolia. Among the eight, six offer degree program to train Physicians to-be and two offer post graduate clinical training for clinical specialization, course specialization, master's degree, and PhD degree.

**Discussion and Conclusions:** Private medical universities do not have adequate supply of faculty members while many faculty members are existing the system, neither enough development of post graduate clinical training, sub-specialization, and PhD programs are created and maintained. In order to meet the growing demand of the population, Mongolia medical education system needs to improve in many ways, including updated curriculum and technology to reach the international standard.

**Take-home Messages:** At the era of globalization and modernization, an objective evaluation of the Mongolia medical education system is needed for international communication and collaboration. This study has done a preliminary study of the current status of physician training in Mongolia. More systematic and comprehensive evaluation of its curriculum, post graduate programs, and accreditation are recommended.

## #4FF ePosters - Surgery Education

### 4FF01 (332)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Will eye tracking video feedback enhance simulator performance?

#### AUTHOR(S):

- **Ninos Oussi, Division of Surgery, Department of Clinical Science, Intervention and Technology (CLINTEC), Sweden (Presenter)**
- Linnea Groph, KTH Royal Institute of Technology, Sweden
- Jessica Ho, KTH Royal Institute of Technology, Sweden
- Ann Kjellin, Division of Surgery, Department of Clinical Science, Intervention and Technology (CLINTEC), Sweden
- Markus Castegren, Department of Anesthesia, Surgical Services and Intensive Care (PMI), Karolinska University Hospital, Sweden
- Lars Enochsson, Division of Surgery, Department of Surgical and Perioperative Sciences, Umeå University, Sweden

#### ABSTRACT

**Background:** The introduction of eye trackers has been shown to distinguish experts from novices in laparoscopic practical skills and improve novices' skills when following gaze patterns of experts. Our aim with this pilot study, was to, through group interviews seek answers regarding participants' motivation, and perception in feedback mechanism in surgical training.

**Summary of Work:** A randomized pilot study, with surgical residents performing two laparoscopic simulator (Simball box) tasks (rope race and basal suturing) with eye-tracking glasses (Tobii Pro Glasses 2) using A. gaze (red ring) or B. no gaze, for feedback (Pilot study flowchart). After signed informed consent, a questionnaire for background info was completed. The performed tasks were video recorded, and replayed for the residents as means for feedback. Using eye tracking glasses, group A had gaze for feedback while group B saw no gaze while watching the video and receiving feedback. All subjects performed a final questionnaire following a group interview (Table 1).

**Summary of Results:** 10 surgical residents (3 females and 7 men) volunteered. Due to interruptions or interfering clinical work only 3 participated in the following group interview. These aspects were also present in the discussion, and formulated as Dislikes/Likes (Table 2). Furthermore, they preferred having a more experienced surgeon when acquiring a new practical skill, as well as receiving instant feedback during ongoing procedures. All participants mentioned lack of time as the crucial point.

**Discussion and Conclusions:** Limitations to this study were the small number of participants with even smaller numbers in the following group interview. Therefore, larger numbers are called for in future studies. Nevertheless, the participants were open-minded and pro co-creation in conducting the pilot study. They all agreed on the potential of incorporating eye tracking and visual training as means to enhance training efficiency. Despite, the availability of simulators, work overload was the greater obstacle to efficient simulator training. The discussions show, that time taken from clinical work to practice with laparoscopic simulators seems difficult without a specified mandatory curriculum. They also suggested using a combined video-recording of hands and gaze pattern, due to the importance of hand-eye-coordination when performing laparoscopic tasks.

**Take-home Messages:** Eye tracking could enhance simulator training efficiency.

## #4FF ePosters - Surgery Education

### 4FF02 (1163)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### E-learning influence on physical examination test performance of Junior Clerkship students

#### AUTHOR(S):

- Jinting Yan, The University of Hong Kong, Hong Kong (Presenter)
- Kent-Man Chu, The University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** For most Junior Clerkship MBBS students in the University of Hong Kong, they are directly involved in clinical environment for the first time. Physical examinations, as foundation skills remain key parts in Junior Clerkship Surgery Block. The Department of Surgery originated a series of 18 e-learning videos, demonstrating physical examinations and basic surgical procedures. Videos were uploaded on Clinical Skills Online Learning Platform in Li Ka Shing Faculty of Medicine. These videos as blended resources are facilitating teachers demonstrating standardized clinical skills, as well as supporting students reviewing and practicing clinical skills. Students' physical examination skills were tested at the end of Surgery Block.

**Summary of Work:** Research was implemented on influence of e-learning videos on Junior Clerkship students' physical examination tests performance. 205 Junior Clerkship students' online attendances were collected from the platform. Descriptive data measured students' e-learning participation performance. Physical examination tests were held at the end of Surgery Block and test result differences in high and low participation groups were compared by independent t-test.

**Summary of Results:** Students' e-learning participation were much beyond expectation. The most popular video, Hernia Examination, attracted 79% students participation. Individual performance varies from none to fully participation. Students were evenly divided in two groups based on their participation difference; students viewed 10 out of 18 videos or less were in low participation group and those viewed 11 or more were in high participation group. Test result between these two groups was compared by independent t-test. Mean scores of physical examination results had significant difference between low participation group 2.959 and high participation group 3.129 ( $p=0.038$ ).

**Discussion and Conclusions:** Junior Clerkship students physical examination test result can be significantly influenced by their e-learning participation performance. The physical examination test result of students viewed more videos are higher than those viewed less videos.

**Take-home Messages:** This study highlighted that e-learning providing students an effective learning approach. Future studies of e-learning influence in other groups of students are required.

## #4FF ePosters - Surgery Education

### 4FF03 (538)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### The Efficacy of Virtual Reality Learning in the Acquisition of Arthroscopic skill: a Systematic Review and Meta-analysis

#### AUTHOR(S):

- Liang-Tseng Kuo, Chang Gung Memorial Hospital, Chiayi, Taiwan (Presenter)
- Cheng-Ting Hsiao, Chang Gung Memorial Hospital, Chiayi, Taiwan

#### ABSTRACT

**Background:** Surgical training has evolved since the implementation working-time restrictions and increasing complexity of modern surgical techniques. Virtual reality (VR) learning has proved effective in varieties of surgical training including laparoscopic surgery. This study aimed to determine the effectiveness of VR simulator-learning, specifically in arthroscopic skills, via a systematic review.

**Summary of Work:** A systematic review of randomized controlled trials (RCTs) comparing outcomes of participants who did and did not receive VR training in arthroscopic surgery. We searched MEDLINE, Cochrane Central Register of Controlled Trials, and EMBASE (Jan 1st 1990 ~ Jan 15th 2019). Risk of bias was assessed and calculated pooled risk estimates.

**Summary of Results:** Ten RCTs comparing VR/non-VR training in arthroscopic surgery (shoulder, n=5; knee, n=3; shoulder and knee, n=2) were included (n=282 participants: VR n=130; non-VR; n= 52). Anatomical learning (1/10) and technical task performance (9/10) were assessed following training (live patients, 4/10; cadaveric model/simulators, 6/10). 8/10 reported significant effects for VR training.

**Discussion and Conclusions:** Six studies reported time-to-task completion. Global rating scales were used in 7/10 trials. The meta-analysis is ongoing, results will be reported. Most studies reported significant improvements with VR training. Due to inherent heterogeneity of trials (eg. different simulators), caution should be taken when applying results to real-world practice. VR training leads to an improvement of technical skills in arthroscopic surgery. However, further trials may be needed to validate the proper training module for different anatomical location and different level of trainees.

**Take-home Messages:** VR stimulation is an effective learning tool in improving the skills in arthroscopic surgery for different kinds of medical trainees. However, the maintenance of the skills acquisition from VR still needs continuing clinical practice or training.

## #4FF ePosters - Surgery Education

### 4FF04 (473)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Evaluation of Operating Room Learning Environment for UAE Obstetrics-Gynecology Residents using STEEM

#### AUTHOR(S):

- Ebtehal Alramsi, Cornich Hospital, SEHA, UAE (Presenter)
- Neha Gami, Healthplus Family Health Clinic, UAE

#### ABSTRACT

**Background:** The learning environment in the surgical theatre has been acknowledged as vital for high-quality training of surgical trainees and simple tools have been designed to measure the perception of residents about this environment. Cassar developed Surgical Theatre Educational Environment Measure (STEEM), an instrument that measures the learning environment in the surgical operating theatre. STEEM consists of 40 questions and includes four subscales dealing with teaching and training, learning opportunities, the atmosphere and supervision/workload/ support. However, no studies were found that assessed this in the context of Obstetrics and Gynecology residency programs in the UAE.

**Summary of Work:** This was a cross sectional, questionnaire based study with 31 respondents using the pre validated STEEM questionnaire. The responses on the online survey used were translated onto an excel sheet using a likert scale. Cronbach's alpha and Intraclass correlation were used to establish the internal consistence and reliability of the questionnaire. The average score for each hospital and overall for all residents was calculated and compared using Student's test.

**Summary of Results:** The overall score on the STEEM for residents of both hospitals taken together was 142.1 (71.05%). The score for Corniche hospital residents was 134.9 (67.45%) and that for Al Ain was 152.2 (76.1%). The scores for Al Ain were significantly better on the questionnaire as a whole and on three out of the four domains.

**Discussion and Conclusions:** This small study has shown that the OBGYN residents in Corniche and Al Ain hospitals of UAE, perceive the learning environment in the surgical theaters to be healthy and encouraging. It has also highlighted those areas that need improvement and those that are the strengths of the program. A more qualitative approach to understanding the individual factors that determine this perception will help to maintain high quality of surgical training in the residency programs in the region.

**Take-home Messages:** The study revealed a positive perception of the residents with respect to the learning environment in the surgical theaters and that STEEM is a valid tool for assessing this aspect of residency training.



## #4FF ePosters - Surgery Education

### 4FF05 (842)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Is Problem-Based Learning (PBL) The Proper Method to Prepare Students for Surgical Practice? Final-Year Medical Students' and Interns' Perspective

#### AUTHOR(S):

- **Mohammed S. Al-Rowais, Department of Surgery, King Saud University, Saudi Arabia (Presenter)**
- Mohammad Alawad, King Saudi Medical Complex, Saudi Arabia
- Shahad Alharbi, King Saud University, Saudi Arabia
- Mohammed Abalhassan, Prince Sattam bin Abdulaziz University Hospitals, Saudi Arabia
- Bader N. AlOmair, King Abdulaziz Medical City, Saudi Arabia
- Thamer Bin Traiki, Department of Surgery, King Saud University, Saudi Arabia

#### ABSTRACT

**Background:** Problem-Based learning (PBL) is a relatively newly implemented method of teaching in Saudi Arabia. However, students and interns' competence never been measured after adopting this learning system. Surgery is a field that requires fast decision-making based on solid combination of basic sciences, clinical judgment, and technical abilities. We are reviewing final-year medical students and interns' perspective on how effective PBL is to prepare them to handle surgical patients in their practice.

**Summary of Work:** A quantitative, cross-sectional study targeting the first two years after applying PBL; interns and final-year medical students at King Saud University. Data was obtained using Likert-type scale questionnaire. SAS was used for data management and statistical analysis.

**Summary of Results:** Total of 91 responses were received, 45% were final-year medical students while 55% were interns. Among the sample, 66% agreed that PBL helped them to understand the theoretical part of surgery and the nature of surgical patients in the floor allowing them to take an appropriate clinical judgment in most of the cases. 43% believed that PBL played a major role in distinguishing emergency versus non-emergency surgical cases. 55% stated that PBL made them self-directed and passionate learners. 40% of the interns believed that PBL acquired them with basic surgical-skills to handle surgical patients in the floor and assist in the ORs.

**Discussion and Conclusions:** This study intended to evaluate the educational system essentials for the academic development among medical-students and interns. To our knowledge, this research is the first study in Gulf-countries to evaluate the outcomes of PBL in surgical practice based on students and interns feedback. "PBL has played a positive role in understanding the learning defects in surgical education. Most of the students believed that understanding the theoretical part in surgical diseases was not an issue. This data suggests that more focus on real clinical aspect especially in surgical emergencies as well as surgical-skills sessions might be needed to achieve the best PBL learning objectives.

**Take-home Messages:** PBL is an effective method to prepare medical students and interns to general practice. In surgery, shedding more light on day-to-day surgical cases and hands-on practical sessions might attribute to better outcomes.

## #4FF ePosters - Surgery Education

### 4FF06 (1130)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### The effect of training on laparoscopic hysterectomy-module in virtual reality simulator on residents' first laparoscopic hysterectomy: a randomized controlled trial

#### AUTHOR(S):

- Ewa Jokinen, Helsinki University Hospital and University of Helsinki, Finland (Presenter)
- Tomi Mikkola, Helsinki University Hospital, Finland
- Päivi Härkki, Helsinki University Hospital, Finland

#### ABSTRACT

**Background:** In Obstetrics and Gynecology, changes in gynecological surgery and in resident education has diminished residents exposure for live operations. Fortunately, technology offers solutions in form of laparoscopic simulators. While hysterectomy is one of the most common gynecological operations, in this study, our objective was to evaluate the effect of training on laparoscopic hysterectomy module in virtual reality simulator on residents' first laparoscopic hysterectomy as a first surgeon.

**Summary of Work:** This randomized prospective study was carried out in Helsinki University Hospital and Hyvinkää Hospital, Finland. We recruited twenty residents in Obstetrics and Gynecology, of which half trained ten times on laparoscopic hysterectomy module in virtual simulator, and the rest comprised the control group. Participants' first laparoscopic hysterectomy as a first surgeon was video recorded and assessed later by two assessors, whom were blinded for the operator and his/her study group. The assessment was done by using Objective Structured Assessment of Technical Skills (OSATS) forms for Global Rating Skills (GRS) and for laparoscopic hysterectomy (LH-OSATS), and Visual Analogue Scale (VAS). The scores and surgical outcomes were compared between the groups.

**Summary of Results:** We found statistically significant difference both in OSATS- and VAS-scores between the groups. The mean OSATS score for GRS was 17.0 in the intervention group and 11.2 in the control group ( $p=0.002$ ). The mean procedure specific OSATS score was 20.0 and 16.0 ( $p=0.012$ ), respectively, and the mean VAS-score was 55.0 and 29.9 ( $p=0.001$ ), respectively. Operative time was 144 min in the intervention group, and 165 min in the control group, but the difference of 21 min was statistically insignificant. In blood loss or direct complications there was no difference between the groups.

**Discussion and Conclusions:** Based on this study, skills gained in the virtual simulator, seems to be transferable into operating room. Clinical practice under supervision is needed to learn a new operative procedure, but training in a simulator is most likely to shorten the training period.

**Take-home Messages:** While training program in the virtual reality simulator is relatively easy to implement, it should be included in laparoscopic hysterectomy training curriculum and precede live operations.

## #4FF ePosters - Surgery Education

### 4FF07 (1998)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Introduction to Surgery and Anaesthesia (ISA): the impact of a student led surgical course at one year

#### AUTHOR(S):

- Irena Norman, Guy's, King's and St Thomas' School of Medical Education, UK (Presenter)
- Charles Southey, Guys, Kings and St Thomas School of Medical Education, UK
- Akshaya Rajangam, Guys, Kings and St Thomas School of Medical Education, UK
- Jacques-Henri Meurgey, Guys, Kings and St Thomas School of Medical Education, UK
- Somain Verma, Guys, Kings and St Thomas School of Medical Education, UK

#### ABSTRACT

**Background:** With increasing emphasis on general practice and psychiatry in medical school, surgical education is becoming increasingly neglected. Our medical school has followed this trend, having removed a dedicated surgical rotation, which may be problematic to students interested in these specialties ' especially as early engagement is essential to achieve success at securing training posts.

**Summary of Work:** To help combat the shortfall in surgical teaching we developed an 8-week surgical course in January 2018 aimed at early-years medical students. The course comprised of teaching in surgical and anaesthetics skills, surgical anatomy, clinical teaching and surgical career building. In addition, based on a student poll, we offered two sessions on cardiac surgery and plastic surgery voted by the students to help increase their engagement run by specialist trainees. One year later we assessed the impact the course had on students by assessing the proportions of students engaging in research, assisting in surgery and being involved in extra-curricular surgical activities compared to their results the previous year. Ethical approval was obtained. chi square tests were performed to assess the proportions of students participating in activities.

**Summary of Results:** 15 students took part in the ISA course. The mean age of participants was  $21 \pm 1.6$ , with 73.3% being female. In the year before the course 13.3% of participants had assisted and the year after 53.3% had assisted in surgery ( $p = 0.06$ ). 13.3% were involved in research project prior to the course and 60% were involved in research projects after the course ( $p = 0.02$ ). 0% had a surgical logbook before the course and 60% kept a surgical logbook after the course ( $p=0.001$ ). The feedback following the course was also overwhelmingly positive with 100% of participants rating the course as either very good or excellent on a 5 point Likert scale.

**Discussion and Conclusions:** Our course resulted in significantly increased engagement in a number of surgical extra-curricular activities in the following year.

**Take-home Messages:** Offering a near-peer surgical course would be an effective way to increase student's engagement and to help facilitate them gaining surgical posts in the future.

## #4FF ePosters - Surgery Education

### 4FFo8 (2386)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Basic Suturing Skills Training using the Four-component Instructional Design (4C/ID): Perceptions of Educators and Learners

#### AUTHOR(S):

- Zaw Lwin, Department of Emergency Medicine, KK Women's and Children's Hospital, Singapore (Presenter)
- Ronald Ming Ren Tan, Department of Emergency Medicine, KK Womens and Childrens Hospital, Singapore
- Sashikumar Ganapathy, Department of Emergency Medicine, KK Womens and Childrens Hospital, Singapore

#### ABSTRACT

**Background:** As the suturing skills are one of the required competence in the children's emergency (CE) department, the pediatricians in collaboration with pediatric surgeons conducted a basic suturing skills training session for the medical officers posted in the CE department.

**Summary of Work:** The authors designed the training session by adopting van Merriënboer's four-component instructional design (4C/ID). The session consisted of a 2-hour face-to-face workshop and the workplace training over three months period. In the workshop, the trainers provided a sequence of learning tasks (the first component) such as pre-workshop readings, the lectures, and the hands-on practice of suturing on the mannequin; supportive information (the second component); and just-in-time information (the third component) required for the learning tasks. After the workshop, the trainers allowed the trainees to perform part-task practice (the fourth component) of suturing to patients under supervision. The authors explored the perceptions of the trainees by using a survey questionnaire and a semi-structured interview of selected trainees.

**Summary of Results:** Thirty-two medical officers attended the training session, and the majority of them found the session useful and practical as they could learn the different suturing techniques systematically. They enjoyed the hands-on experience of skills training on the mannequins, and they commented that feeling confident to perform the procedure on the patients. They also valued the support of the trainers in providing information and constructive feedback. The trainees suggested to allocate more time for the hands-on session and to increase the trainer-trainee ratio. The trainers closely supervised the trainees' suturing procedure on patients and remarked that their performance was satisfactory.

**Discussion and Conclusions:** This small-scale study demonstrates an essential role of 4C/ID model in training of complex surgical skills. It also highlights the critical role of trainers in the scaffolding of trainees' performance skills by providing necessary information, supervision and constructive feedback. The trainers should review the duration of the workshop, and the number of trainers and trainees to maximize the outcomes of the training session.

**Take-home Messages:** The 4C/ID model can be used as a blueprint for the training of the surgical skills in the CE department.

## #4FF ePosters - Surgery Education

### 4FF09 (1316)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### The role of peer observation in the acquisition of surgical skills in virtual reality tasks in medical students

#### AUTHOR(S):

- Hsin-Yi Chiu, Taipei Medical University Hospital, Taiwan (Presenter)
- Chia-Che Chen, Taipei Medical University Hospital, Taiwan
- Po-Li Wei, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Peer-assisted learning has been regarded as an adjunct to teaching modalities. It remains inconclusive regarding the benefits of peer observation in skills learning. Hence, we investigated whether the active engagement(AE) of peer observation in addition to expert demonstration would facilitate the performance in the virtual reality tasks.

**Summary of Work:** The programs involved four VR tasks including basic (camera targeting), intermediate (energy dissection and energy switching), and advanced (suture sponge) tasks in the da Vinci Skills Simulators, which were set up in the operating room at Taipei Medical University Hospital. Fifty medical students participated in the study. The AE of the participants was defined as the total number of peer observations in addition to expert observation before their performance. We assessed the correlations between AE and surgical task performance using Pearson correlation and the concept of learning analytics.

**Summary of Results:** AE was correlated with the energy dissection task ( $r = 0.329$ ,  $p = 0.02$ ) and marginally associated with the energy switching task ( $r = 0.271$ ,  $p = 0.057$ ). However, AE was not correlated with either task scores for camera targeting ( $r = 0.096$ ,  $p = 0.509$ ) or task scores for suture sponge ( $r = 0.091$ ,  $p = 0.529$ ).

**Discussion and Conclusions:** Our findings suggest that AE of peer observation may facilitate learning energy dissection task, which is an intermediate-level task, but not in other basic or advanced tasks in a VR context. The study highlights the potential effect of AE of peer observation on surgical learning based on a distinct level of tasks. Tasks that fit the learners' level are recommended. Nevertheless, the effectiveness of peer observation on surgical training still has to be explored to ensure favorable results and optimal learning outcomes.

**Take-home Messages:** 1. We applied LA to evaluate the impact of peer observation on learning skills. 2. AE of peer observation had no obvious effect on the basic task. 3. AE of peer observation had potential benefits in the intermediate tasks. 4. AE of peer observation had a negative correlation in the advanced task. 5. Training tasks that fit the learners' level are recommended.



## #4FF ePosters - Surgery Education

### 4FF10 (3284)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Rethinking Stress and Surgeon Performance: Identification of Stress States in Surgery

#### AUTHOR(S):

- Sydney McQueen, University of Toronto, Canada (Presenter)
- Melanie Hammond Mobilio, University of Toronto, Canada
- Aidan McParland, University of Toronto, Canada
- Natasha Seemann, University of Toronto, Canada
- Ranil Sonnadara, McMaster University, Canada
- Carol-anne Moulton, University of Toronto, Canada

#### ABSTRACT

**Background:** Stress in surgery has a direct impact on surgeon performance and wellness. Stress is not only a manifestation of physiology, but also involves cognition, thought, and emotion, expressed in a sociocultural milieu, combining to produce various 'stress states'. Acknowledging the multidimensional aspects of a surgeon as human, this study took a holistic approach to study stress in surgery. The purpose of this study was to develop a conceptual framework for understanding how physiology, cognition, thought, and emotion come together to produce the various 'stress states' in the performance of surgery.

**Summary of Work:** We conducted semi-structured interviews with 24 staff surgeons at the University of Toronto, purposively sampled for different experience levels and surgical practices. Data were coded and analyzed iteratively by three researchers using a constructivist grounded theory methodology until theoretical saturation was achieved. Questions explored the different dimensions of surgeon stress and how these facets come together to shape the stress experience.

**Summary of Results:** Although surgeons identified stress as being a critical part of practice, they lacked a shared vocabulary to describe these experiences. A theoretical framework was co-constructed to identify surgeon stress states, with each state being multidimensional in nature. For example, the state of distress was associated with negative emotions including fear and anxiety, a physiologic stress response, and cognitive impediments including a reduced ability to think clearly and make sound decisions. The state of engagement was identified as having less physiologic activation, enhanced cognition, and positive emotions. Participants described how the sociocultural environment can influence the experience and expression of different states. Some states, such as readiness to perform and flow, were identified as desirable and actively sought after, while others, including burnout and disengagement, were identified as hazardous.

**Discussion and Conclusions:** Providing a framework for understanding the stress states in surgery may help surgeons recognize these states. Future investigations should identify strategies for negotiating states, which may be used to enhance performance and physician wellness.

**Take-home Messages:** Considering the physiologic, cognitive, emotional, and sociocultural dimensions of the surgeon stress experience allows for the identification of 'stress states' in the performance of surgery.

## #4FF ePosters - Surgery Education

### 4FF11 (2367)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Simulated Laparoscopic Skills Training Program by Surgical Residents

#### AUTHOR(S):

- Raquel Peixoto, Federal University of Ceara, Brazil (Presenter)
- Ricardo Barreto, Unichristus, Brazil
- Hermano Rocha, Unichristus, Brazil
- Glaydison Borges, Unichristus, Brazil
- Arnaldo Peixoto Júnior, Unichristus, Brazil
- Luiz Moura Júnior, Unichristus, Brazil

#### ABSTRACT

**Background:** Simulators for video-surgery has been proposed as teaching tools, allowing training of students under more controlled and safe conditions.

**Summary of Work:** 12 residents of surgery from four different hospitals were trained in video simulators in seven sessions over seven months. In a quantitative longitudinal experimental study, the assessment of the progression of laparoscopic skills was carried out by two structured scales, Objective Structured Assessment of Technical Skills (OSATS) and the Progression of Proficiency Scale (EPP), and by participant's perception. Anova and chi square tests were performed to compare variables, and correlations between numerical variables were verified through linear regression. The Average Ranking was calculated for Likert scale analysis. This study was approved by the Research Ethics Committee of the institution.

**Summary of Results:** There was a statistically significant improvement in the OSATS score in relation to the items: Respect to the tissue ( $p = 0.006$ ), Time and movement ( $p = 0.001$ ), Knowledge and handling of instruments  $p = 0.002$ , Circulation flow ( $p = 0.001$ ), Knowledge of the specific procedure ( $p = 0.001$ ). The total number of points by EPP and the mean score in the tests by the modified OSATS were significant ( $< 0.001$  and  $< 0.001$ ) over the months. The training program contributed to the development of surgical skills in the students perception, with the best evaluated items being the handling of tweezers and needle holders and the knitting. The worst evaluated items were the hapticity and the gait step.

**Discussion and Conclusions:** There was significant gain in skills by the residents during the seven months of simulated training. At each stage of the training, individualized feedback was provided to participants. The structured evaluation instruments have been useful in guiding curricular changes as well as identifying individualized learning needs. The maintenance of learning beyond the seven months of study was not evaluated. There was great satisfaction with the facilitators and with the work environment, without evasion.

**Take-home Messages:** Virtual reality training has been an effective complement in the training of surgical performance. Reflecting on their practice after structured assessments allows trainees to improve their perceptions about learning.

## #4FF ePosters - Surgery Education

### 4FF12 (2443)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Developing and gathering validity evidence for a simulation-based tool to assess technical expertise in open aortic aneurysm repair

#### AUTHOR(S):

- Leisl Joy Nayahangan, Copenhagen Academy for Medical Education and Simulation, Denmark (Presenter)
- Jonathan Lawaetz Rasmussen, Copenhagen Academy for Medical Education and Simulation, The Capital Region of Denmark, Denmark
- Michael Strøm, Department of Vascular Surgery, Rigshospitalet, Denmark
- Louise Rosenørn de la Motte, Department of Vascular Surgery, Rigshospitalet, Denmark
- Lars Konge, Copenhagen Academy for Medical Education and Simulation, and The Capital Region of Denmark, Denmark
- Jonas Peter Eiberg, Department of Vascular Surgery, Rigshospitalet, Denmark

#### ABSTRACT

**Background:** Systematic and objective assessment is needed to ensure competence in open resection of infrarenal aortic aneurysms (AAA). A sound assessment provides clear learning objectives and is used for structured feedback. Few assessment tools are available however rigorous validation using a contemporary framework is needed. The aims of this study were to develop a procedure-specific assessment tool for open AAA, gather validity evidence to ensure that training objectives are met and establish a pass/fail standard.

**Summary of Work:** Messick's framework was used to gather validity evidence from different sources. To ensure content evidence, three experts of open AAA surgery and an expert of assessment and validation developed the assessment tool (open aortic aneurysm repair assessment of technical expertise (OPERATE)). Integrity of test data was collected in a standardized simulation-based setting. Twenty-five vascular surgeons with varying experiences performed open AAA surgery and were video-recorded. All tests were scored independently by three blinded raters. The Angoff method was used to investigate a pass/fail score to determine consequences of testing.

**Summary of Results:** Sixteen novices and nine vascular surgeons highly experienced in open AAA surgery were enrolled. The OPERATE achieved a high internal consistency (Cronbach's alpha = .92) and inter-rater reliability (Cronbach's alpha = .94, intraclass correlation = .83). The performances of the two groups were compared with novices performing inferior to the experts as expressed by mean OPERATE scores of 14.91 and 25.63, respectively ( $p = 0.01$ ). The pass/fail score was set at 38.4 points. None of participants passed the test.

**Discussion and Conclusions:** Solid validity evidence was established for the OPERATE tool and can be used in both testing and training scenarios with different levels of supervision. The high pass/fail score underlines that achieving minimum competences in all levels of a complex and potentially dangerous open surgical procedure is challenging. The fact that the experts failed accentuates that even experts cannot be thrown into a simulator and peak perform but need 'warm-up' and time before real performance is estimated.

**Take-home Messages:** Expert participants need to 'warm up' on the simulator before their results reflect their true expertise. The OPERATE is a highly reliable, procedure specific tool to assess competency during open AAA training and testing.

## #4FF ePosters - Surgery Education

### 4FF13 (1699)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Scan, plan, print, practice, perform: Development and use of a patient-specific 3-dimensional printed model in Video-Assisted Thoracoscopic Surgery (VATS) lobectomy

#### AUTHOR(S):

- Hsu-Kai Huang, Tri-service General Hospital, Taiwan (Presenter)
- Kuan-Hsun Lin, Tri-service General Hospital, Taiwan
- Yi-Jhih Huang, Tri-service General Hospital, Taiwan
- Tsai-Wang Huang, Tri-service General Hospital, Taiwan
- Hung Chang, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** Video-Assisted Thoracoscopic lobectomy(VATS lobectomy) is a preferred treatment for early-stage lung cancers. This high-risk operation needs intense training before surgical residents develop competency. Conventional training usually relies on computer simulation, living animals or human cadavers. Currently, performing surgical maneuvers on a patient-specific simulator is possible with 3D printing technologies. To date, there was no simulator designed with patient-specific models, pulmonary blood flow and single-lung ventilation.

**Summary of Work:** We developed this high-fidelity 3D-printed simulator for safety learning of VATS lobectomy. The whole surgical maneuvers such as dissection of the hilum, dissection and stapling of the vessels and bronchus, and finally stapling of the fissure and dissection of lymph nodes are just like real-life surgery.

**Summary of Results:** We enroll 3 experienced board-certified surgeons into the study for validating of the simulator that designed for standard VATS lobectomy and 3 novice surgeons for learning the surgical skills. The experience surgeons convince to do surgery in the 3D-printed simulators is almost like real-life surgery. After the training programs, the novice surgeons developed great independence and self-confidence throughout the whole training.

**Discussion and Conclusions:** Training methods of VATS lobectomy include animal model, human cadaver, computer simulation, and 3D printing simulation model. The human cadaver is an ideal model because of the anatomic accuracy and elastic tissue. Training on the live animal is also very helpful. However, there are some problems including ethics and cost. Computer simulation presents an opportunity to 'rehearse' this technically demanding procedure, but lack of haptic feedback during the training process. Our 3D-printed simulator with the accurate anatomy and vascular sheath structures allows performing surgical maneuvers that simulate VATS lobectomy. It is a convenient and reproducible method to assess the capability and competency of trainees to perform VATS lobectomy.

**Take-home Messages:** This high fidelity 3D-printed simulator presents with excellent functions such as haptic feedback, patient-specific design, pulmonary blood flow, and single-lung ventilation. The training model provides the trainees independence and self-confidence throughout the whole procedure of VATS lobectomy.

## #4FF ePosters - Surgery Education

### 4FF14 (3267)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Using a Virtual Reality Ophthalmic Surgery Simulator to Improve Surgical Observation Experiences for Medical Students

#### AUTHOR(S):

- Daniel Hutter, University of Miami Miller School of Medicine, USA (Presenter)
- Kara Cavuoto, University of Miami Miller School of Medicine, USA

#### ABSTRACT

**Background:** Medical students pursuing a career in ophthalmology spend considerable amounts of time observing eye surgery. The benefit of the time spent in surgical observation is unclear, as students may not possess the knowledge to appreciate the nuances of surgery.

**Summary of Work:** To assess whether training with a virtual reality haptic ophthalmic surgery simulator improves the surgical observation experience for medical students who plan to go into ophthalmology. Medical students answered questions to assess their experience in the ophthalmology operating room, both before and after training on the HelpMeSee ophthalmic surgery simulator. Training consisted of half-day sessions with one or two students led by an ophthalmologist with expertise in simulation education. These sessions covered surgical ergonomics, surgical microscope adjustment, and uses/features of surgical instruments. The study employed a mixed methods design: quantitative data derived from selected-response written survey items, and qualitative findings comprised of responses to open-ended written and semi-structured interview questions.

**Summary of Results:** Based on students' mean ratings on representative written survey items, respondents were more active observers in the OR and were more prepared to observe in the OR after simulation-based eye surgery training. Representative student responses to post-simulation open-ended written survey questions included: 'Going through the simulation provided me with an improved understanding of the technical skills and surgical steps required to complete cases in the OR. It also helped reinforce the steps and improved my retention.' 'Prior to going through the training session, my focus would only be on the screen displaying the surgery. After, I split my focus between watching the surgery on the screen and actually watching what the surgeon was doing with their hands/feet and what instruments they were using.'

**Discussion and Conclusions:** Virtual reality simulation improves medical students' observation experience in ophthalmic surgery.

**Take-home Messages:** After learning about the basics of ophthalmic surgery in my simulator session, it was a much more enriching experience to be in the OR. Having the chance to sit down on the simulator and actually attempt some techniques made it possible for me to better appreciate what I was observing in the OR.



## #4FF ePosters - Surgery Education

### 4FF15 (3026)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Educational experience: Surgical skills workshop for ENT residents

#### AUTHOR(S):

- **Gabriela Perez Raffo, Instituto Universitario Hospital Italiano, Argentina (Presenter)**
- Florencia Fernández, Hospital Italiano de Buenos Aires, Argentina
- Ana Laura Cajelli, Hospital Italiano de Buenos Aires, Argentina
- Matías Parreño, Hospital Italiano de Buenos Aires, Argentina

#### ABSTRACT

**Background:** There is a well-recognized need for the development of surgical skills of junior trainees in all branches of medicine. The resort to human cadavers, animal, or human-simulated plastic models is widely practiced. In medical training, simulation offers a safe and realistic environment. A medical simulator is a physical object that reproduces a real clinical scenario. With the help of simulators, medical students and junior residents can perform a series of standardised surgical and non-surgical tasks under the direct observation of an expert tutor. Simulation can be used to develop the surgical skills of otolaryngology residents prior to application in a clinical environment. Surgical simulation is becoming a powerful tool for teaching, and also for planning surgery.

**Summary of Work:** The aim of this study is to examine the effects of the first procedure simulation workshop performed by the ENT residents, on self reported procedural confidence and competence and and grade the residents satisfaction with this new modality of work. ENT residents attended the first one-day procedure workshop, rotated between 4 procedure low fidelity simulation station: basic nasal station, advance nasal station, otologic and laryngeal station. Residents completed a survey immediately after the the workshop to self-assess procedural confidence, competence and satisfaction. The instructors evaluated the residents competence and skills in each station.

**Summary of Results:** Nine residents participated in this procedure simulation workshop. In all the stations the level of self-confidence before the practice was low, and this level increased in all PGY to a moderate to high level after the practice. The mayor change in self-confidence level was obtained at the 'basic nose' station. A 100% of the surveyed considered that the simulation workshop as a very good complement of their theoretical knowledges.

**Discussion and Conclusions:** In our experience, the major increase in self-reported confidence level among the junior residents was a reflex of the acquirement of basic technical skills. For future procedure simulation workshop, as each resident progresses and with the addition of high-fidelity simulators, they may will apply the basic technical skills they practiced while acquiring new ones.

**Take-home Messages:** Simulation improves residents self-assess procedural confidence and competence, and promote a dynamic learning environment, reinforcing interpersonal relationships.

## #4FF ePosters - Surgery Education

### 4FF16 (3504)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Comparison of Faculty versus structured Peer feedback: implications of technical skills training

#### AUTHOR(S):

- Guy Sheahan, Queen's University, Canada (Presenter)
- Richard Reznick, Queen's University, Canada
- Don Klinger, University of Waikato, New Zealand
- Leslie Flynn, Queen's University, Canada
- Boris Zevin, Queen's University, Canada

#### ABSTRACT

**Background:** The surgical training environment has been required to adapt to multiple changes in recent years. Two challenges have placed significant burdens on traditional training methodology: the emerging need for critically reflective clinicians, and restrictions in the traditional methods of technical skills training. Implementing training for these disparate elements is challenging. Simulation-based training has been widely used to teach technical and non-technical skills, however consistent access to faculty feedback during training and implementation of critically reflective activities remains problematic. Self-regulated learning can be used to both provide the mechanism by which skill acquisition and critical reflection can occur.

**Summary of Work:** This research consisted of two complimentary studies examining technical skill acquisition and self-regulated learning in medical students using structured peer-feedback to learn technical skills. The technical skills study consisted of two non-inferiority randomized-controlled trials comparing structured peer-feedback versus traditional faculty feedback for the acquisition of a technical skill. The peer-feedback group provided feedback to each other based on structural support provided through pre-training in the assessment tool. Participants completed five attempts at the skill over four days. The impact on self-regulated learning was examined using thematic analysis of: student responses to multiple surveys, and the written feedback provided by the peer-feedback group.

**Summary of Results:** Performance in the peer-feedback group was not inferior to faculty group across all assessment criteria used in the study: blinded expert assessment, time to completion and functional stress test. Students developed increasingly sophisticated assessment and feedback skills through regular small exposures to the assessment task. Students' self-regulated learning was demonstrated by their improving technical performance, improving evaluative judgement of their peer's performance, self-identification of the benefit of these assessment skills to their own learning, and subsequent implementation of these skills in other contexts. Despite improved assessment skills students did not believe the feedback they provided was beneficial – likely due to a lack of external feedback on their assessment skills from faculty.

**Discussion and Conclusions:** This research has demonstrated that with appropriate support, structured peer-feedback can be used to augment traditional faculty led training, whilst additionally developing student's evaluative judgement and self-regulated learning.

## #4GG Posters - Mentoring/CPD

### 4GG01 (2914)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Characteristic of medical students mentoring in Walailak University, Thailand

#### AUTHOR(S):

- Waritsara Leepaopan, Vachira Phuket Hospital Medical Education Center, Thailand (Presenter)
- Patpawi Ngamsing, Vachira Phuket Hospital Medical Education Center, Thailand
- Withita Jangiam, Vachira Phuket Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Medical education and training can directly contribute to the development of psychological distress in medical students. For medical students, having a physician who serves as a mentor may be one of the most valuable resources on the path to becoming a doctor. To make a mentorship between medical students and advisor, mentee has to searching for a good mentor to guide the creative ways. The aim of our study is to seeking good mentor's characteristics of medical staffs to enhancing undergraduate medical student academic performance, research productivity, career planning, and overall satisfaction.

**Summary of Work:** A cross-sectional study was conducted among 1st-5th year of medical students in Walailak university. A questionnaire was disseminated to the medical students about characteristics of a good mentor that they are appreciated which divided into five topics; personality, knowledge, how mentor care of a patient, morality and commination skill. Data collection was provided by Google form. Descriptive statistics were used to analyze data.

**Summary of Results:** Mentees are perceived to have primary responsibility for finding a suitable mentor. Characteristics of effective mentors include being trustworthy(58.29%), having counselling knowledge(37.71%), providing the best care for the patient(36.00%), being honest(35.43%) and a mentor who acts in the interests of the mentee and be a good listener(17.71%).

**Discussion and Conclusions:** The answer of medical students suggest that the advisor should give them a positive reinforcement, have an appropriate knowledge go hand in hand with virtue and be a good doctor model. The characteristics that found in our study should demonstrate to the medical center for improve mentoring relationships and medical students are perceived as a mutually satisfying and effective instrument for key issues in medical students' professional development.

**Take-home Messages:** The effectiveness of the mentoring program is supported by several factors that, as a whole, lead to the development of a professional graduate. Let's be an effective mentor to get a good doctor.

## #4GG Posters - Mentoring/CPD

### 4GG02 (2502)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Factors affecting medical students burnout and motivation in the new mentoring program

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Because of burnout epidemic among medical students and professionals, attempts to alleviate burnout is intensified. According to the JD-R model, burnout is mainly predicted by high job-demands and lack of job-resources. At Ramathibodi Medical School, a new mentoring program has been launched for second-year students aimed at promoting social support/community, self-development, and a culture of respect and appreciation. This study aims to explore the following question: Which factors of the new mentoring program do medical students perceive as having an impact on their stress/burnout and motivation?

**Summary of Work:** This is the second-phase of an explanatory mixed-methods study. The first-phase was a quantitative study to identify burnout levels using the Maslach Burnout Inventory (MBI). The second-phase involves a qualitative approach. Eighteen participants with highest levels of burnout identified at the first-phase were individually interviewed. Content analysis of the interview transcriptions were independently analyzed by the authors, followed by consensus meetings.

**Summary of Results:** Factors in the mentoring program students perceived as helping to alleviate burnout were: a) fun and relaxing atmosphere of the activities, b) peer/group interaction with shared feeling/experiences and support, c) mentor's advice and support, d) mentor as a role model. Major activities students perceived to improve motivation were: patient/clinical-exposure experiences and mentor's retreat sessions. These activities improve students' motivation by: creating connection from classes to real-life clinical experiences, providing empathetic and dedicated physician/mentor role models, and improving students' self-efficacy. Factors hindering students' motivation were: competing priorities of tasks (e.g. examination), lack of mentor's contact-time and engagement, the gap-generation (made it difficult to build rapport with the students) and failing to create a safe space for group sessions.

**Discussion and Conclusions:** The interventions pointed towards a decrease in burnout and improved motivation, through three main paths: a) increase the value of the learning activities and professional work, b) improve students' self-management (self-efficacy, time-management and emotional regulation), c) improve the sense of community/belongingness.

**Take-home Messages:** Burnout and motivation interventions should be addressed on these two domains: a) improving students' and mentor's engagement, b) creating a safe environment for group interaction.

## #4GG Posters - Mentoring/CPD

### 4GG03 (2879)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What do undergraduate medical students say about supervision activities shown by their clinical mentors during their final clinical year?

#### AUTHOR(S):

- Angelika Hofhansl, Medical University of Vienna, Teaching Center, Austria (Presenter)
- Gerhard Zlabinger, Medical University of Vienna, Teaching Center, Austria
- David Taylor, University of Liverpool, School of Medicine, UK
- Anita Rieder, Medical University of Vienna, Teaching Center, Austria

#### ABSTRACT

**Background:** In 2014 the Medical University of Vienna implemented a fully hospital-based clinical 6th year into the undergraduate medical curriculum. Each cohort (640 students) spend 48 weeks in the University Hospital or in accredited hospitals across Austria and abroad. Students are supervised in a 1:1 setting by clinical mentors. Though we informed all clinical mentors beforehand about our intended aims and outcomes, we did not give detailed specifications regarding single supervision activities. The aim of this retrospective study was to assess students' needs in this regard and how the mentors met them.

**Summary of Work:** After completing 48 weeks of clinical placements we asked students from 3 cohorts in their final year (2015-2017) using questionnaires about different aspects of clinical supervision as shown by their mentors. We provided a list of 26 activities relevant for clinical supervision and mentoring (items mainly derived from the list published by Kilminster et al., 2007). First we asked about the actual occurrence of each activity, then the students indicated those 5 activities which were most important to them. We did this separately for Internal Medicine and for Surgery.

**Summary of Results:** We analyzed questionnaires from a total of 1712 students. Supervision activities most important for students were "Discussing individual patients", "Discussing the management of specific disorders", "Teaching specific techniques and procedures", "Bedside teaching" as well as "Providing informal feedback". According to the extent of discrepancies between need and fulfillment the majority of supervision activities was found to be in a tolerable range for both internal medicine and surgery. In contrast, "Providing informal feedback" emerged to be substantially less fulfilled by supervisors in both specialties.

**Discussion and Conclusions:** Students' needs for supervision activities were comparably met for Internal Medicine and Surgery except for "Providing appropriate feedback". Needs were also qualitatively similarly apparent among student for both specialties. Those findings are highly relevant for faculty development and should be complemented by mentors' perspectives.

**Take-home Messages:** In order to enhance the quality of clinical education make sure that all supervisors are informed about what students find most important in the clinical learning environment.



## #4GG Posters - Mentoring/CPD

### 4GG04 (2494)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Comparison of desired mentor characteristics in regular and strengthening tract medical students

#### AUTHOR(S):

- Nonglak Butdee, Phichit Medical Education Center, Thailand (Presenter)
- Nalinrat Chaikitthai, Phichit Medical Education Center, Thailand

#### ABSTRACT

**Background:** Mentoring is proved supporting medical student's performances, problem solving, career planning and satisfaction. Good relationship with mentor results in positive outcomes. There are 2 tracts of medical students in Naresuan University, the regular one which accepts the students from high schools and the strengthening one which admits the scientific graduates. The two groups of students are different in age and backgrounds. Therefore, it is beneficial to know the preferred mentor characters in each groups.

**Summary of Work:** Qualitative and quantitative online questionnaire was done in 4th-6th years medical students in 5 medical centers of Naresuan university. We assessed desired mentor characteristics and problems that need supports and consultations.

**Summary of Results:** The total of 122 medical students were enrolled which 68.8% are from strengthening tract and 31.2% from normal tract. Majority of respondents was from 4th year medical students (42.7%). Almost all students (81.5%) would like to have an unmarried young-aged female staff as a mentor. Pediatrics was the most popular specialty while internal medicine and psychiatric were subsequently chosen (37.9%, 24.2% and 21%). The top 3 problems that required consultation were learning problem, career planning and problem in communication (47.6%, 37% and 4%). The desired characters were friendly (87.1%), approachable (79.5%), good listener (78.2%), positive thinking (55.6%), and keep information confidential (50.8%). There was no difference in character of mentor and common consulted problem between the two groups.

**Discussion and Conclusions:** Despite the difference in backgrounds of the students, the desired mentor characteristics dose not differ. Positive characters of mentor which are friendly and approachable can be the general characteristics found in pediatrician.

**Take-home Messages:** All medical students require mentor who is friendly, approachable, good listener and trustworthy regardless of their backgrounds. Pediatricians characters can be the good example of mentor.

## #4GG Posters - Mentoring/CPD

### 4GG05 (705)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Mentoring program in a resource-limited setting: what do students want?

#### AUTHOR(S):

- Suchadavee Wongchaipawatt, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand (Presenter)
- Piti Phloenchaiwanit, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand

#### ABSTRACT

**Background:** The medical staff currently has heavy workloads and not enough time to supervise medical students. The students also have various life and learning management issues. Individual selection of mentors according to the students' needs would yield the best results.

**Summary of Work:** Questionnaires were distributed to clinical-year medical students to survey their most preferred mentoring system out of three options - 1) one advisor supervising one student throughout three clinical years (One-to-one), 2) one group of advisors supervising a group of students with two to three students from each year (Family) and 3) one group of advisors supervising one group of students from the same year of study. A focus group interview was employed to obtain opinions on the expected qualities of a teacher and a mentoring system in comparison to current situations and suggestions for improvement.

**Summary of Results:** The family mentoring system is the most preferable because it creates an environment for students to deliberate problems amongst their groupmates, which leads to a wider range of issues being presented to mentors and problem-solving discussions within groups. Having groupmates also makes students more comfortable in approaching mentors. The most expected teacher quality was the facilitator role by stimulating thinking processes and promoting discussion. The students did not require a lecturing role because of the high availability of learning materials. They perceived that the nature of lecturing provides less knowledge retention than self-study.

**Discussion and Conclusions:** Monitoring and providing support to medical students are two of advisors' roles, but classmates and seniors are capable of helping them in some problems in their study and personal life. This is the benefit of the Family mentoring system. We experienced that the ratio between advisors and students is crucial but the quality of the advisors is even more important. Therefore, a training system for advisors should be provided in order to enhance care and support for medical students.

**Take-home Messages:** Medical schools with limited time and staff resources can utilize this system to enhance their mentoring programs to maximize the support for students.

## #4GG Posters - Mentoring/CPD

### 4GG06 (2849)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Mentor in Mobile

#### AUTHOR(S):

- Katja Pura, University of Oulu, Finland (Presenter)
- Piia Rantakokko, University of Oulu, Finland

#### ABSTRACT

**Background:** University of Oulu's Medical School has been developing students' mentoring system. Mentoring aims to provide career counselling, develop professionalism, increase students' interest in research and support students in personal and professional growth. We have faced certain challenges in mentoring. First, medical students have unmet needs in the areas of developing professionalism and sharing their difficult experiences during studies and practical training. Second, mentors worried whether they did enough for their students. Third, how committed mentors are to their mentoring relationships and how do they get support to mentoring.

**Summary of Work:** The aim was to create structured, focused and target oriented mentoring system to all students covering their whole study period. Milestones: \* To add curricular components for providing a purpose and structure to online mentoring system via appropriate tool. \* To create safe group communication channel. From the students' point of view the accessibility of a mentor and development in the contents were the prior aims. Busy doctors need a tool which is available easily and includes the most important issues that will help them in their work as a mentor. It is also important that these issues are initially linked to the curriculum. Students seem to need different type of counselling so planning the mentoring issues with different specialists of counselling is an important requirement to success.

**Summary of Results:** We ended up developing a mobile app in which mentoring groups can discuss, arrange meetings and get themes to meetings. The key elements were framework, flexibility and structure. Flexibility refers to meeting the individual and changing needs of students. Structure concerns ensuring consistency in mentoring and compliance with prevailing codes of conduct and standards of practice. The contents were designed so that there are certain university level issues and degree programme issues which were designed with noticing curriculums and timetables.

**Discussion and Conclusions:** All the materials on the app are available to all students and mentors during the whole circle of studies. In future we will collect feedback of the app and its functionality and then develop the system.

**Take-home Messages:** \* Thematical framework supports mentoring \* Online material access \* Structure and developing structure by feedback.

## #4GG Posters - Mentoring/CPD

### 4GG07 (1981)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### Coaching intervention improves physician well-being

#### AUTHOR(S):

- Lara Solms, Erasmus Medical Center & University of Amsterdam, the Netherlands (Presenter)
- Anne P.J. de Pagter, Erasmus Medical Center, the Netherlands
- Tim Theeboom, University of Amsterdam, the Netherlands
- Jessie Koen, University of Amsterdam, the Netherlands
- Annelies E.M. van Vianen, University of Amsterdam, the Netherlands
- Matthijs de Hoog, Erasmus Medical Center, the Netherlands

#### ABSTRACT

**Background:** Both work engagement and well-being are crucial for the optimal functioning of physicians. Yet, the stressful demands in healthcare put physician functioning severely at risk, posing a threat to patient care and safety.

**Summary of Work:** This two-wave intervention study evaluates the effectiveness of 6 individual coaching sessions with medical specialists and residents in two academic hospitals in the Netherlands. Physicians who received coaching (N=57) were expected to show an increase in personal resources, motivation, and well-being as compared to non-participants (control group; N=57). No changes were expected for job demands and job resources. To assess the effect of the intervention, we measured physicians' well-being (i.e., burnout, stress, coping, recovery, work-life balance) and motivational outcomes (i.e., task proficiency, work engagement), personal (i.e., psychological capital, self-compassion, reflection, psychological flexibility, proactivity), and job resources (i.e., social support, autonomy, psychological safety), as well as job demands (i.e., workload, job insecurity, competition, work-life-interference) before the intervention (T1) and after the intervention (T2). All constructs were measured with validated questionnaires.

**Summary of Results:** We tested our hypotheses with separate 2 (treatment vs. control group) x2 (time) ANOVAs for each variable. For a more in-depth analysis of the variables, we followed up on these analyses with a series of paired comparisons. Our results showed support for our hypothesis. Specifically, physicians in the treatment group showed increases in well-being (e.g., exhaustion, stress, work-life balance) and personal resources (e.g., psychological capital, self-compassion, proactivity) at T2, with all p's < .05, while there were no such changes in the control group. Effects of the intervention were mostly of medium size based on calculation of Cohen's f. No effects were found for motivational outcomes. As expected, also the majority of job demands and job resources had not changed.

**Discussion and Conclusions:** Our results imply that the intervention group strengthened their resources and showed improved well-being after the coaching intervention.

**Take-home Messages:** This study suggests that coaching is an effective way to increase especially personal resources and promote well-being that ultimately help to foster optimal functioning among physicians.

## #4GG Posters - Mentoring/CPD

### 4GG08 (1689)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A Systematic Scoping Review of Ethical Issues in Mentoring in Internal Medicine, Family Medicine & Academic Medicine

#### AUTHOR(S):

- Clarissa Wei Shuen Cheong, Yong Loo Lin School of Medicine, National University of Singapore, Singapore (Presenter)
- Wen Jie Chua, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
- Fion Qian Hui Lee, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
- Ying Pin Toh, National University Health System Singapore, Family Medicine Residency, Singapore
- Lalit Kumar Radha Krishna, Yong Loo Lin School of Medicine, National University of Singapore; National Cancer Centre Singapore, Singapore

#### ABSTRACT

**Background:** Mentoring's success in boosting the career and development of mentees and mentors, and enhancing the reputation of host organizations pivots upon successful mentoring relationships. However, with mentoring processes poorly overseen, and the lack of mentor training and support there are concerns over the failure and abuse of mentoring processes. A scoping review is undertaken to study prevailing ethical issues facing mentoring in medicine.

**Summary of Work:** Arksey and O'Malley (2005)'s methodological framework for conducting scoping reviews was employed to evaluate the size, gaps and scope of ethical concerns in medicine. Databases PubMed, ScienceDirect, ERIC, Embase, Scopus, Mednar and OpenGrey were searched for articles published between 1st January 2000 and 31st December 2017 concerning ethical issues in mentoring in general medicine. Based on an agreed upon selection criteria, the authors sieved and retrieved final articles for open coding and thematic analysis.

**Summary of Results:** 3391 abstracts were identified, 412 full-text articles were retrieved, 98 articles were included and thematically analysed. Themes include ethical issues at the level of the mentor and mentee, the mentoring relationship and host organisation. Each contained three subthemes - ethical issues faced, predisposing factors and possible solutions.

**Discussion and Conclusions:** The combination of poor matching, training, oversight and structuring of the mentoring process invites consideration of the culture of mentoring programs, which stems from the manner that breaches in mentoring practice are perceived. The poor alignment of expectations between mentors and mentees underscores the need for ethical codes, oversight and quality appraisal of the mentoring process by host organizations. It is interesting to note that many behaviours deemed egregious in the past would be acceptable today. Such shifts in conceptions and the influence of prevailing social and professional practices warrant further consideration.

**Take-home Messages:** Concerns on the potential abuse of mentoring practice are well-founded. Host organizations are best placed to lead all stakeholders, in addressing problems caused by the complex interwoven nature of mentoring relationships. Better understanding of the issues at hand and clear direction for future research on mentoring structures, assessment tools, host organizations and the mentoring environment must be pursued.



## #4GG Posters - Mentoring/CPD

### 4GG09 (1357)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

## Understanding mentoring structures through a systematic scoping review of mentoring programmes in medicine and surgery between 2000 and 2017

### AUTHOR(S):

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- Fion Qian Hui Lee, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
- Ying Pin Toh, National University Hospital Singapore, Family Medicine Residency, Singapore
- Lalit Kumar Radha Krishna, Yong Loo Lin School of Medicine, National University of Singapore; National Cancer Centre Singapore, Singapore

### ABSTRACT

**Background:** Growing evidence of the benefits of mentoring has spurred efforts to integrate mentoring processes into formal medical training. However, a holistic and longitudinal appreciation of mentoring processes and the structure that underpins it remains unclear, making proper oversight and accountability challenging. This systematic scoping review aims to evaluate the extent, range and nature of existing accounts of mentoring structures across all specialties in medical education.

**Summary of Work:** Under the guidance of an experienced librarian, the authors performed literature searches of accounts of mentoring programmes published between 1 January 2000 to 31 December 2017 in PubMed, ScienceDirect, ERIC, Embase, Scopus, Mednar and OpenGrey databases. Articles involving mentoring in medical and surgical specialties were selected based on a selection criteria that is agreed upon. A data collection coding book was created and thematic analysis was carried out. Final themes were arrived upon through negotiated consensus amongst all authors.

**Summary of Results:** The initial search revealed 3391 abstracts, 412 full-text articles relevant to the topic of interest were retrieved, 67 articles were selected. The themes identified were grouped into 5 broad categories: the pre-mentoring phase, matching process, establishment of a mentoring relationship, process of the mentoring relationship, and evaluation of the mentoring process. These themes correlate with specific stages within the mentoring process.

**Discussion and Conclusions:** Though the style and context varied, similarities amongst various mentoring programmes provide general insights into mentoring structures. To help balance structure and flexibility, we forward a mentoring framework that will also ensure effective oversight of the mentoring process. Effective oversight is challenged by a lack of holistic and longitudinal assessment tools and it calls for the creation of evidence-based mentoring evaluation processes.

**Take-home Messages:** Mentoring structures are critical to the oversight of mentoring programmes. Mentoring structures pivot on a balance between structure that ensures compliance with acceptable standards and flexibility to meet individualised mentoring needs.

## #4GG Posters - Mentoring/CPD

### 4GG10 (540)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Examining requirements for doctor mentors in Taiwan: A mixed methods study

#### AUTHOR(S):

- Liang-Shiou Ou, Chang Gung Medical Research Center, Chang Gung Memorial Hospital, Taiwan (Presenter)
- Yi-Fang Tsai, Chang Gung Medical Research Center, Chang Gung Memorial Hospital, Taiwan
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#### ABSTRACT

**Background:** Sometimes undergraduate students and postgraduate trainees present with difficulties in learning, which causes problems ranging from minor misconduct to serious criminal offence. This study aims to examine the difficulties instructors encounter when mentoring such students, their needs for relevant training, and expectations for institutional support.

**Summary of Work:** A questionnaire was developed from the literature and a focus group discussion. The questionnaire was promoted and collected online. Participants comprised mentors across different managerial positions and medical facilities. The questionnaire asked many questions, including information around their mentoring experiences, difficulties and needs. Data were analysed using SPSS 24.0.

**Summary of Results:** 148 valid questionnaires were returned. 56.2% of respondents reported encountering students-at-risk, of these, 45.1% never reported it. The top 3 reasons why were: confidence in handling the situation personally; reporting is futile; and concerns around workload. Respondents consistently disagreed that faculty training courses sufficiently provided knowledge and skills for mentoring.

**Discussion and Conclusions:** Participants without mentoring experience believed that they could identify students with difficulties significantly more than did those with mentoring experience ( $P < 0.001$ ), suggesting that either novice instructors are most likely to underestimate the risk of encountering students with difficulties, or that they overestimate their own abilities. Current faculty development programmes might fail to provide instructors with the skills needed to mentor students with difficulties. This situation might lead to instructors' misevaluation of students-at-risk or even negligence of the relevant risk.

**Take-home Messages:** Institutions need to support instructors at all levels, and provide training courses that more fully: meet their needs to improve their ability to identify undergraduate students and postgraduate trainees with difficulties; enhance their knowledge and skills in managing students with difficulties; and increase their willingness to report such cases.

## #4GG Posters - Mentoring/CPD

### 4GG11 (2183)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### “Sisonke, Rekaofela, Together”: Experiences of mentors in a peer mentoring program

#### AUTHOR(S):

- Carol Hartmann, University of the Witwatersrand, South Africa (Presenter)
- Braney Modiba, University of the Witwatersrand, South Africa
- Lesedi Mohlala, University of the Witwatersrand, South Africa
- Aluwani Madzhia, University of the Witwatersrand, South Africa
- Siseko Dlanjwa, University of the Witwatersrand, South Africa
- Reginald Maloka, University of the Witwatersrand, South Africa
- Emmanuela Boachie, University of the Witwatersrand, South Africa

#### ABSTRACT

**Background:** Anecdotal reports from the medical program at the Faculty of Health Sciences, University of the Witwatersrand, South Africa, suggest that students entering university after graduating from under-resourced schools struggle to adapt to university life in their first year of study. The literature suggests that peer mentoring improves the experience of first-year students and helps them adapt to the university environment. Therefore, in 2018 a peer mentoring program was initiated in which six third year medical students, who had graduated from under-resourced schools, mentored 18 first year medical students from similar backgrounds. However, it soon became apparent to the mentors that the mentees were not the only ones benefiting from the program. Therefore, through this study the mentors aimed to document their experience of the peer mentoring program.

**Summary of Work:** All six mentors took part in a group discussion in which nominal group theory was used to identify and rank the benefits and challenges mentors experienced in the peer mentoring program.

**Summary of Results:** Challenges centred around development and maintenance of the mentor-mentee relationship, continuing commitment to the program and self-confidence in interacting with the mentees. The mentors overwhelmingly ranked their growth in interpersonal skills as the main benefit. Additional benefits included development of a broader social network - a “pseudo-family”, increased self-awareness and confidence, a sense of fulfilment and improvements in academic skills, including a greater appreciation for deeper learning.

**Discussion and Conclusions:** The positive benefits of the peer mentoring program experienced by the mentors are similar to those described in the literature with the addition of a perception of improved academic skills and the transition to academic approaches which support deeper learning over surface learning. Such programs can help students to assist each other in the transition to university life and develop a range of skills that benefit mentors as well as mentees in their university careers.

**Take-home Messages:** Peer mentoring programs for students from under-resourced schools have important benefits for the growth and development of mentors as well as mentees.

## #4GG Posters - Mentoring/CPD

### 4GG12 (389)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of the Young Teacher through Research Scholarship: An Early Experience from the International Health Informatics Study (IHIS) Network

#### AUTHOR(S):

- Gary Tse, Chinese University of Hong Kong, Hong Kong (Presenter)
- William Wu, Chinese University of Hong Kong, Hong Kong
- Sunny Wong, Chinese University of Hong Kong, Hong Kong
- Rachel Lai, Chinese University of Hong Kong, Hong Kong
- Jessica Chan, University of Oxford, UK
- Adrian Baranchuk, Queens University, Canada

#### ABSTRACT

**Background:** Research and teaching are traditionally viewed by research academics as separate entities. The International Health Informatics Study (IHIS) Network was initially set up by junior and senior faculty members to promote research collaborations across different countries. Acquisition of knowledge from peers is an important part of the learning process in clinical research. Here, we describe an early experience of developing the young teacher by a mentorship scheme that was specifically aimed to deliver research outputs from the IHISN Network.

**Summary of Work:** Researchers from first year undergraduate students to senior faculty were recruited. A four-tiered mentorship model was employed. This involved students with no prior research experience (n=30) matched to a senior student with more than 2 years of experience (n=2). This senior student in turn was mentored by junior faculty within 5 years of graduation (n=3). Mentees and mentors in the first three tiers were supported remotely by an international network of researchers (n=22). Students had unimpeded access to the student trainer and researchers throughout the programme.

**Summary of Results:** A total of 38 researchers from six countries participated in this study. Nine teachers (2 undergraduates; 3 junior faculty [ $<6$  years of experience]; 7 senior faculty) were matched to 28 mentees (27 undergraduates; 1 postgraduate). Three researchers served as teachers and mentees. Between December 2016 and January 2019, 31 publications were generated from this collaboration. Of the 30 students included, 26 responded to our survey. On a scale of 1 to 5 (from least to most satisfied), the mentees were satisfied by being mentored by both academic staff and peers ( $4.4 \pm 0.8$  vs  $4.4 \pm 0.8$ , respectively). The mean frequency of one-to-one peer mentoring session per month was 1 (Q1: 1; Q3: 3). Five students met with their respective mentors  $\geq 10$  times per month.

**Discussion and Conclusions:** After the mentorship programme, the mentees found that they gained a better understanding and became more interested in medical research. On peer learning, they agreed that it promoted active learning.

**Take-home Messages:** We demonstrate that an innovative pedagogical approach in which teaching and education are incorporated into ongoing research activities using an online platform, demonstrating the feasibility and success of this programme.

## #4GG Posters - Mentoring/CPD

### 4GG13 (3087)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### Addressing Social Determinants of Health: Developing and Delivering Timely, Actionable Audit Feedback Reports to Healthcare Providers

#### AUTHOR(S):

- Harriet Fisher, New York University, USA (Presenter)
- Jeffrey Wilhite, New York University, USA
- Lisa Altshuler, New York University, USA
- Kathleen Hanley, New York University, USA
- Khemraj Hardwar, New York University, USA
- Colleen Gillespie, New York University, USA

#### ABSTRACT

**Background:** Does actionable feedback on patient safety indicators and responses to disclosed social determinants of health (SDoH) impact clinical behavior? We sent Unannounced Standardized Patients (USPs) with SDoH-related needs to care teams in two urban, safety-net clinics. Data collected on practice behaviors were used for cycles of audit and feedback on the quality of electronic health record (EHR) documentation, team level information sharing, and appropriate service referral. Reports contained an evolving educational component (e.g. how to recognize, refer, and document SDoH). We disseminated reports to teams (doctors, nurses, physician's assistants, medical assistants, and staff) at routine meetings and via email.

**Summary of Work:** Three audit feedback reports have been distributed to date. Survey data was collected at two time points, 2017 (n=77) and 2018 (n=81), to assess provider attitude changes and integration of feedback into clinical practice. Measures included change in team knowledge and attitudes towards SDoH, and response to/ documentation of presented SDoH (measured via post-visit checklist and EMR).

**Summary of Results:** Preliminary data shows no change or improvement in documentation of SDoH and limited variation between firm-level responses. Only 7% of providers reported feeling strongly confident in knowing how to make referrals for social needs in 2018; no improvement since 2017. Despite regular report distribution, 58% of providers reported having received no formalized feedback on responding to SDoH. 24% reported maybe or not sure. 86% of 2018 survey participants self-reported having referred a patient to appropriate services when a social need was identified. Our referral data says otherwise, referrals occur for less than 30% of visits with SDoH-related needs.

**Discussion and Conclusions:** Results suggest disconnect between team data and individual reporting: most report they refer but data suggests few do. Deeper integration of reports into team processes, attachment of feedback to curricula, and increased frequency of regular feedback may be needed for accountability. These preliminary results help refine audit feedback methodology but research is needed to understand motivation and systems barriers to referral and documentation.

**Take-home Messages:** Providers struggle report referring patients with SDOH, but results reflect differently. Future research will look at provider attitudes toward referral processes.



## #4GG Posters - Mentoring/CPD

### 4GG14 (122)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Continuing professional development for interprofessional collaboration: Fun and games

#### AUTHOR(S):

- Theresa Schindel, University of Alberta, Canada (Presenter)
- Teresa Paslawski, University of Saskatchewan, Canada

#### ABSTRACT

**Background:** The World Health Organization recognizes interprofessional collaboration (IPC) as an important component of health care. Health professional education programs deliver education to develop collaboration competencies often through interprofessional experiences. Post-graduate and continuing professional development (CPD) programs to support further development of these competencies are not mandatory. As the focus of pharmacists' roles shift to emphasize patient care as members of healthcare teams, CPD educators need approaches that complement learning at work and learning with other health care professionals. Little is known about effective instructional approaches for uni-professional CPD.

Games have been associated with student engagement in professional programs to enhance IPC.

**Summary of Work:** Educational games adapted from work by Lake et al. focused on knowledge and skills required for collaboration. The games involved low-stakes activities that did not require disciplinary expertise. The first involved building a structure and the second to plan a social event. Pharmacists enrolled in a post-graduate program at the University of Alberta participated in the games. Pre-games, pharmacists reviewed background theory, delivered group presentations, and reflected on prior experiences with collaboration. Post-games, pharmacists engaged in a debrief and an evaluation.

**Summary of Results:** Through participation in the games, pharmacists demonstrated competencies in leadership, communication, and teamwork. Pharmacists initially viewed the games as a fun and entertaining approach to CPD. The debrief, a critical component of the games, facilitated discussion of prior assumptions, authentic emotions, and new insights related to collaboration in practice. Pharmacists identified strategies to improve individual contributions to IPC.

**Discussion and Conclusions:** Based on our three years of experience with the games, pharmacists reported a high level of satisfaction; games facilitated enjoyment in the classroom and learning about collaboration. The debrief with a uni-professional group allowed exploration of pharmacists' individual competencies required for IPC. The uni-professional setting created a space for disclosure of tensions, challenges, and opportunities unlikely to surface in an interprofessional environment. These games are adaptable to CPD for other disciplines.

**Take-home Messages:** A uni-professional debrief can have a positive impact on interprofessional learning. Incorporating low-stakes activities like games in CPD for IPC competencies facilitated fun and learning.

## #4GG Posters - Mentoring/CPD

### 4GG15 (1091)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Use of Health Team Resource Management Model to Improve Nurses' Teamwork

#### AUTHOR(S):

- Ching-Wen Hu, Tungs' Taichung MetroHarbor Hospital, Taiwan (Presenter)
- Shu-Zhen Chen, Tungs' Taichung MetroHarbor Hospital, Taiwan
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- Tsu-Sang Chen, Tungs' Taichung MetroHarbor Hospital, Taiwan

#### ABSTRACT

**Background:** The unit is a newly established single ward in the Division of General Medicine and the nursing team members consist of senior nurses from wards in different divisions. The unit leader was the head nurse, who used important elements of the health team resource management model as strategies to improve the nurses' teamwork.

**Summary of Work:** Firstly, the head nurse used leadership as an important element of the health team resource management model to hold daily morning meetings and handover procedures. The process included the use of briefing, huddles, debriefing, and the I'm SAFE checklist to confirm the status of the nurses and adjust work task assignments in a timely manner. During the implementation of work tasks, the head nurse improved members' mutual support and cooperation and used the ISBAR for the nursing handover process.

**Summary of Results:** The nurses identified with the unit leader's attention to teamwork, flexible adjustment of tasks, and effective message sharing, which reduced errors and workloads.

**Discussion and Conclusions:** The use of the Health team resource management model enabled the unit leader to provide members with accurate and clear orders that improved the cooperation of team members, increased nurses' confidence in keeping track of the work progress, and enhanced their cohesion.

**Take-home Messages:** 1. Use of health team resource management model can improve teamwork and patient safety. 2. Improving and confirming nurses' sufficient safe executive ability is an important factor for maintaining patient safety.

## #4GG Posters - Mentoring/CPD

### 4GG16 (2017)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Effects of Integrating Social Media LINE with High Fidelity Simulation in Emergent and Critical Management Training on Trainee's and instructor's Learning Outcomes

#### AUTHOR(S):

- Yung-Chi Hsu, Tri-Service General Hospital, National Defense Medical Center, Taiwan (Presenter)
- Go-Shine Huang, Tri-Service General Hospital, National Defense Medical Center, Taiwan
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- Hui-ju Chen, Tri-Service General Hospital, Taiwan
- Ya-Chuan Chang, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** Little is known about the best teaching model of how to manage emergent and critical conditions through team-based learning for health care teams. The Community of inquiry (Col) model is a suitable tool for analyzing learning outcomes, including social (SP), teaching (TP) and cognitive (CP) presences. According to Col framework, social media LINE (LINE) offers SP, and high fidelity simulation (HFS) enhances TP. Besides, both LINE and HFS promote CP. The study purposes were to examine the effects of integrating LINE and HFS on trainees' learning outcomes (attitudes toward learning, self-efficacy of group learning, satisfaction of learning activity, and flow experience).

**Summary of Work:** Three health care teams received training of "simulation scenario competition" conducting by the joint commission of Taiwan (JCT) for assessing management of emergent and critical conditions through Team Resource Management (TRM) in 2018. Trainees joined different LINE programs and designs of HFS based on their learning needs and specialties, and attend the JCT "Simulation Scenario Competition Health Care Team". There were totally 18 participants including 4 instructors, 14 trainees who completed outcome assessment. Via LINE, participants could raise questions, discuss standard operation procedures of scenario management, TRM concepts and skills, and openly communicate with affective expressions. Besides, trainees received HFS once a week by simulator. Learning outcomes were measured by using validated 5-point Likert scales by ZUVIO before and after training. Data were analyzed using generalized estimating equation (GEE)

**Summary of Results:** Results suggest that integrating LINE with HFS in emergent and critical management could facilitate trainees' attitudes ( $B=5.00$ ,  $p=0.001$ ), self-efficacy ( $B=6.21$ ,  $p<0.01$ ), satisfaction ( $B=8.41$ ,  $p=0.001$ ) and flow experience ( $B=8.429$ ,  $p<0.001$ ). Besides, our program could enhance the instructors' flow experience ( $B=8$ ,  $p<0.001$ ). Moreover, the health care teams gained award provided by JCT.

**Discussion and Conclusions:** Integrating LINE with HFS significantly improved participants' learning outcomes, and three health care teams were successful while compared with others in JCT. The results also support the Col framework.

**Take-home Messages:** We can apply the integration of LINE with HFS to the management of emergent and critical conditions and TRM in health care teams.

## #4GG Posters - Mentoring/CPD

### 4GG17 (2160)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Physician leadership development through action research: a new approach to continuing professional development

#### AUTHOR(S):

- Colleen Grady, Centre for Studies in Primary Care, Canada (Presenter)
- Rebecca Van Iersel, North Simcoe Muskoka LHIN, Canada
- Lynn Roberts, Centre for Studies in Primary Care, Canada

#### ABSTRACT

**Background:** The province of Ontario has prioritized health care reform for an affordable system that provides the best care for all Canadians. Physicians play a key role in reform. Leadership skills among physician teams at the regional level are critical as they engage their peers in collaborative system change. Action research is being used to involve physician leaders in the design of an in-house leadership development program. As partners in data collection and analysis, they support the cyclical nature of learning and modifications to the study along the way. They are engaged as both participant and collaborator in research which can cultivate sustainable change.

**Summary of Work:** Over two years, leadership training sessions will be provided to the leadership team capitalizing on opportunities for learning and sharing leadership challenges related to engagement of physicians region-wide. A continual evaluation of training in accordance with Kirkpatrick's model at the 3rd and 4th level (application and system change) will be used. Developing leadership skills among peers will be informed by experience within the team; developing an in-house program allows for learning that is most valuable to participants as it takes context and culture into account.

**Summary of Results:** Through semi-structured interviews clinical leaders at the North Simcoe Muskoka Local Health Integrated Network have identified highest priorities in developing leadership skills and the optimal methods for learning. This informs the preliminary leadership training plan. An iterative, responsive process to leadership development using real-time situations and ongoing assessment of learning needs will adjust training interventions over the 2 year study.

**Discussion and Conclusions:** This novel approach to leadership development will increase collective leadership capacity for both the physicians and the organization. Workplace learning can foster comradery among peers, build upon existing leadership skill sets and offer opportunities to choose learning methods best suited to the group rather than with a pre-designed leadership program.

**Take-home Messages:** Given that physicians are critical to health system reform and overall improved patient outcomes, supporting their leadership capacity is vital. Action research enables them to identify their own learning needs and guide skill development that is responsive to real-world challenges.

## #4HH Posters - Professionalism

### 4HH01 (183)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### A Systems Approach to Professionalism

#### AUTHOR(S):

- Julia Humphreys, University of Manchester, UK (Presenter)

#### ABSTRACT

**Background:** Objectives: To explore systems that promote professionalism in medical education. Little research has been done to investigate the systems that underpin and support the identification of professionalism within medical education institutions. We explored the perceptions of senior members of department hospital and Yale Medical School (Chairs of Departments with core clerkship), Chief Residents and Clerkship Directors, using thematic analysis of interviews and focus groups from responses to the following questions: 1. What promotes professional behaviour? 2. Give examples of: (a) a scenario(s) which demonstrate(s) definite unprofessional behaviour (b) a scenario(s) which demonstrate(s) unclear unprofessional behaviour 3. What encourages and allows people to speak up about professionalism? 4. Are there specific strategies that can, or might, help you to continue to promote professionalism in the faculty?

**Summary of Work:** Design: Qualitative research study, involving a stratified random sample of senior-level members of department hospital and Yale Medical School staff, including Core Clerkship Directors, Chief Residents and Clerkship Directors. Individual face-to-face interviews and focus group discussions were conducted by the Principal Investigator (Dr Julia Humphreys, University of Manchester) during a 3-week sabbatical visit to Yale Medical School in October 2018.

**Summary of Results:** TBC. The following themes will be discussed:

Question 1: Role modelling, Medical student reporting, Root cause analysis, Measurability, Guidance, Reflective practice, Training, Clear expectations, Accountability, Leadership, Structural support, Efficient reporting systems, Research Incentives

Question 2: Clear: Bullying, Harassment, Illegal activity Unclear: 'Militant' training in the name of 'good cause', Swearing in OR, Tone of speech, Vulgar language/humour Preferential treatment, Body language, Physical contact with patients, Dress codes

Question 3 : Forums that explicitly encourage this, Avoiding witch-hunts, Avoiding black/white good/bad terminology Schwarz rounds, Top-down approaches, Candid and honest feedback (tends to occur towards the end of placements)

Question 4: Open conversations, Critical incident sessions, Reflective writing workshops at end of each clerkship, Self-reflection and correction, Identification of the 'culture', Resilience building from induction, Leading by examples (retreats), Awards? Or citizenship metric

**Discussion and Conclusions:** TBC

**Take-home Messages:** Suggestions for: systems that may promote and support professionalism, applicable across other institutions systems that facilitate the reporting of both good and bad exemplars of professionalism dealing with lapses in professional behaviour.



## #4HH Posters - Professionalism

### 4HH02 (2593)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Topic analysis of research on medical professionalism from 1979 to 2018

#### AUTHOR(S):

- Hyoseon Choi, Chosun University College of Medicine, South Korea (Presenter)
- Jihyun Lee, School of Dentistry, Seoul National University, South Korea
- Shin-Young Park, School of Dentistry, Seoul National University, South Korea

#### ABSTRACT

**Background:** This study aims at exploring an overview of research into medical professionalism and its evolution through 40 years from 1979 to 2018.

**Summary of Work:** A content analysis was carried out on 1,364 abstracts of research articles retrieved using search term medical professionalism from academic DB; Academic Research Complete. We analyzed the patterns of medical professionalism publications based on the frequency of keywords and topics/co-topics; their linked relationships; and the evolution of keywords, topics/co-topics, and journals by period and first author's affiliated continents.

**Summary of Results:** The publication of medical professionalism articles dramatically increased from 25 before 2000 to 1,349 since 2000. 1,364 articles were published in 370 different journals for 40 years. Based on TF-IDF (Term Frequency - Inverse Document Frequency), top most frequently used keywords included Resident, Competency, Patient, Assessment, Clinical, Ethics, Curriculum, and Faculty. A set of major research topics were identified, of which Graduate Medical Education, Interpersonal/Communication, Hidden Curriculum, Role Model, Ethics, Undergraduate Program, Reflection, Patient Safety, and Unprofessional Behavior were prominent ones. The studies on Interpersonal/Communication has been continuously researched throughout 40 years. The studies on Patient Care decreased but the studies on Reflection increased by period. The topic similarity analysis suggested that between Graduate Medical Education and Interpersonal/Communication has the highest similarity. There was no difference in research interest by continents. Professionalism in the context of graduate medical education is most studied while undergraduate-level professionalism has relatively less studied. For example, in Europe, the professionalism at the graduate level was 32.80% among other topics, while the one at the undergraduate education was only 3.78%. Educational strategies had been also studied such as hidden curriculum, role model, and reflection. Recently, the interest of researchers in teaching professionalism through reflection has been amplified.

**Discussion and Conclusions:** The 40-year study of medical professionalism has largely addressed the major medical professionalism theory (communication, ethics, and clinical competency), but little research on principles (excellence, humanism, accountability and altruism) (Arnold & Stern, 2006). In particular, accountability and altruism were scarcely studied, which future research need to explore on.

**Take-home Messages:** Further research on the principles of medical professionalism needs to be conducted.

## #4HH Posters - Professionalism

### 4HH03 (663)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Professionalism in the pre-registration pharmacist placement: an exploratory stakeholder study

#### AUTHOR(S):

- Helen Ireland, University of Leeds, UK (Presenter)
- Rebecca ORourke, University of Leeds, UK
- Julie Sowter, University of Bradford, UK

#### ABSTRACT

**Background:** Interest into professionalism within UK pharmacy professionals has increased due to publications highlighting poor patient care, such as the 2018 Gosport inquiry, and new person-centred roles for pharmacists, for example within care homes. This has resulted in questioning how pharmacists develop and are assessed for professionalism, particularly during the pre-registration pharmacist training placement. Studies have researched this field, but only from tutor and trainee viewpoints which limits insight. This study addressed this knowledge gap by exploring how professionalism is learnt and judged during the pre-registration placement from the perspectives of the General Pharmaceutical Council, service users, pre-registration trainees and pre-registration tutors. Representation of these four groups within one study provided a unique understanding.

**Summary of Work:** An interpretative paradigm approach was adopted, involving a semi-structured group interview, focus groups and a qualitative e-questionnaire. An active thematic interpretative analysis approach was used to identify, evaluate and consider patterns and meaning across all data sets.

**Summary of Results:** Trainees and tutors stated several transformative moments happened during the training year to potentiate professionalism development. The first being the issuing of the title 'pre-registration trainee'. All groups reported emotional connections with patients in the work-place throughout the pre-registration placement as aiding professionalism maturation from a 'self-centred student' to becoming an 'outwardly looking and responsible professional'. Although no tutors reported patients formally provided feedback on the trainees' professionalism; service users expected to be involved. Tutors indicated the rate of professionalism development varied across different sectors of pharmacy practice, with community pharmacy facilitating faster professionalism maturation due to increased trainee autonomy.

**Discussion and Conclusions:** This study identified the significance of and requirement for transformative moments and maturation periods in the development of professionalism during the pre-registration placement. The study implications include; formal and regular patient involvement in judgements of a trainees professionalism, careful planning of training to facilitate transformative moments and maturation periods and awareness of different rates of professionalism development in different pharmacy sectors.

**Take-home Messages:** • Requirement for transformative moments and maturation periods in professionalism development; • Role of patients in professionalism development and judgements; • Varying rates of professionalism development across pharmacy sectors.

## #4HH Posters - Professionalism

### 4HH04 (2321)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### Awareness of Medical Professionalism and Knowledge-behavior Discrepancy among Chinese Medical Students: a Cross-sectional Survey Study

#### AUTHOR(S):

- Xin Zhang, Ministry of Health Holdings (MOHH), China (Presenter)
- Sui Peng, The First Affiliated Hospital of Sun Yat-sen University, China
- Weiying Chen, The First Affiliated Hospital of Sun Yat-sen University, China

#### ABSTRACT

**Background:** Compromised professionalism could be traced to medical school. Identifying deficiencies in both awareness and behavior of medical professionalism among Chinese medical students might help to bridge the professionalism gap in Chinese health care system.

**Summary of Work:** The goals of our study are twofold. (i) Do Chinese medical students understand the core professional values? (ii) Among students who bear the knowledge, how many would act accordingly and what drives possible disparity? A cross-sectional survey was conducted at Zhongshan Medical school, Guangzhou, China. We combined Barry's questionnaire with four more scenarios to test 10 aspects of medical professionalism among senior medical students. Awareness of professional ethic and the participant's possible behavior in response to each scenario were assessed. We compared the Chinese students with a group of international students to filter out impediments that may be more prominent in Chinese culture and medical education.

**Summary of Results:** 240 medical students completed the survey. Percentage of participants showing adequate knowledge regarding 10 aspects of medical professionalism are: Gifts(39%), conflict of interest(55%), confidentiality(61%), Impairment(65%), Harassment(51%), Honesty(82%), Informed consent(75%), patient safety(94%), plagiarism(82%), fair environment(68%). Four aspects-plagiarism, honesty, fair environment and informed consent--suffered the most knowledge-behavior discrepancy. 'Conform to social norm' was the most prevalent reason behind such knowledge-behavior discrepancy.

**Discussion and Conclusions:** Chinese medical students hold varied level of knowledge regarding different aspects of medical professionalism, and good knowledge doesn't necessarily translate into professional conduct. Both school curriculum and the practicing environment need to be revised to promote professional behavior among Chinese medical students.

**Take-home Messages:** To our knowledge, this is the first study to map out the gaps in Chinese medical professionalism education. Lack of awareness of medical professionalism could be addressed with a more structured curriculum with early integration of core professionalism values. Medical educators should also be alerted to the influence of practicing environment had on medical students and provide guidance to tackle some disparity between current practice and core professionalism values.

## #4HH Posters - Professionalism

### 4HH05 (205)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Leaving the Laboratory: Using Bedside Teaching to Enhance the Professionalism of Medical Technologists

#### AUTHOR(S):

- Chih-Hung Chen, Department of Internal medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan (Presenter)
- Chia-Te Kung, Department of Emergency Medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Eng-Yen Huang, Department of Radiation Oncology, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Meng-Chih Lin, Department of Pulmonary and Critical Care, Kaohsiung Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** The role of the Medical Technologist has expanded, no longer merely confined to the laboratory. To cultivate professionalism among such workers (and in general), Social Cognitive Theory recommends the development of values and the ability to identify with others through group interaction and participation.

**Summary of Work:** 1. From 2017-18, a total of 40 medical technologist interns volunteered to partake in the study (IRB number 201600978BoC501). Before and after the internship program, students filled out information on standards of professionalism: questionnaires involving scenario-based challenges and self-evaluations of their performance through separate stages of the program. They also took part in a group interview. 2. Doctors conducted bedside teaching sessions as the interns observed from the side, trying to gain a better grasp on the patients conditions, the process of providing care, and the relationship between doctor, patient, and nurse. After the sessions, the interns split into small groups and discussed and reflected on their own personal fields.

**Summary of Results:** 1. In testing conducted prior to and following the program, the areas in which students described noticeable improvements on their self-evaluation reports include: caring for patients, standard of professionalism, and growth and learning on the job. 2. The results of the bedside teaching, students from different internship programs exhibit no significant margin in the number of correct responses provided. 3. About scenario-based challenges, on-the-job medical technologists selected the top two correct answers far more often than interns did when it came to queries such as confidential agreements, patients rights, relations between doctors and patients. 4. The lowest scores on questions related to sexual harassment.

**Discussion and Conclusions:** 1. Bedside teaching is viewed as instruction and learning that occurs outside the context of regular classes. Via role modeling in hospital wards, educators in the field of medicine can provide instruction in professional standards, medical ethics, humanism, as well as communication and clinical skills. 2. To re-emphasize the importance of professionalism, the training of teachers (role models) should reflect this focus.

**Take-home Messages:** Stepping out of the laboratory and having real-life contact with patients, learning through role-modeling, and cross-disciplinary interaction are all effective methods for raising the standard of professionalism among medical technologists.

## #4HH Posters - Professionalism

### 4HH06 (2933)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Teaching professionalism in the acute medical setting: assessment and feedback from medical student simulation

#### AUTHOR(S):

- **Dominic Brown, Medical Education Department, Princess Alexandra Hospital Trust, UK (Presenter)**
- Yuji Suzuki, Medical Education Department, Princess Alexandra Hospital Trust, UK
- Andrew Foster, Medical Education Department, Princess Alexandra Hospital Trust, UK
- Gemma Beadle, Medical Education Department, Princess Alexandra Hospital Trust, UK
- Helen Wiggins, Medical Education Department, Princess Alexandra Hospital Trust, UK
- Lucy Evans, Medical Education Department, Princess Alexandra Hospital Trust, UK

#### ABSTRACT

**Background:** Professionalism is an essential part of the medical curriculum and the General Medical Council (GMC) states medical schools should “Give professionalism parity with other parts of the curriculum and integrate it in teaching, don’t separate it out but make it visible and acknowledge it”<sup>1</sup>. Despite several studies evaluating methods of teaching professionalism, there is no consensus on how best to integrate this into the medical curriculum.<sup>2</sup> Research has demonstrated simulation to be an effective method of medical education, particularly for skill acquisition<sup>3</sup>. Incorporation of professionalism into acute simulation scenarios has not been widely explored and may demonstrate the complexities of clinical care and the real-life application of these skills.

**Summary of Work:** During high-fidelity simulation training for final year medical students (n = 10) professionalism scenarios were included within acute medical scenarios (8 in total). Scenarios were selected to be realistic and enhance clinical learning. Student feedback was collected after each session with further data collection on-going.

**Summary of Results:** Quantitative and qualitative feedback was collected. Students responded to statements including; ‘The inclusion of professionalism improved the simulation session’ (1=strongly disagree - 5=strongly agree). The mean response at the final session was 4.124 (range 2-5) increasing from 3.4 in session one possibly reflecting the students’ greater familiarity with and understanding of professionalism. Feedback was largely positive; however some did not appreciate this teaching innovation as they felt it was not reflective of their examinations.

**Discussion and Conclusions:** Developing professionalism is an essential skill for medical students. Incorporating professionalism into acute medical scenarios demonstrates its real-life applicability. This method of teaching was found to be acceptable to medical students with acceptance and satisfaction increasing with exposure. One challenge in implementation is overcoming the students’ exam focused learning styles. If professionalism was represented in assessments to a greater degree students may be more amenable to learning focused around this skill.

**Take-home Messages:** Professionalism should be incorporated throughout medical training and assessment. Integration into high-fidelity simulation training is acceptable to medical students with many reporting it to improve sessions. This method may highlight the real-life application of this important skill.



## #4HH Posters - Professionalism

### 4HH07 (932)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Development, over 5 Years, of a Consecutive Curriculum for Cultivating Professionalism in Medical Students in Japan

#### AUTHOR(S):

- **Michito Hirakata, Keio University School of Medicine, Japan (Presenter)**
- Toshiaki Monkawa, Keio University School of Medicine, Japan
- Masatoshi Nara, Keio University Faculty of Letters, Japan
- Kimio Yoshimura, Keio University School of Medicine, Japan
- Koichi Matsuo, Keio University School of Medicine, Japan
- Kou Sueoka, Keio University School of Medicine, Japan

#### ABSTRACT

**Background:** Professionalism is a core competency for medical students and physicians to possess. Globally, there have been many challenges in establishing curricula that cultivate Professionalism and bring a more humanistic focus to students studying medicine. However, a validated educational program for teaching and evaluating this essential proficiency has not yet been established due to its abstract concept and subjective nature.

**Summary of Work:** To demonstrate and nurture Medical Professionalism and humanism in our students, we have developed a consecutive, comprehensive, and compulsory curriculum called the “Medical Professionalism Program (MeP).” This program consists of: 1st year) primers of bioethics, law jurisprudence, and psychology; 2nd year) interdisciplinary approach to health care and economic theory; 3rd year) research ethics; 4th year) clinical research ethics, principles of medical ethics, medical communication, and perceptions of “a Good Doctor”; 5th year) health policy and patient-centered care; and 6th year) the dignity of life and medical safety. Students have been encouraged to discuss key issues in groups before presenting their ideas in a collaborative learning approach and have been evaluated through peer-to-peer assessment, integrated measurement of attitudes, and reports by educators. This is especially encouraged in the program designed to create a student-authored-oath in our “White Coat Ceremony,” prior to commencing clinical clerkships, and in debates about end-of-life care, brain death determination, organ transplantation, and selection of reproductive techniques in the final year, prior to graduating.

**Summary of Results:** Throughout the MeP, over 6 years, our students shared their experiences and ideas on the important attributes of professionalism or the benefits to society and reaffirmed their dedication to the ethical care of patients.

**Discussion and Conclusions:** We found that our students were encouraged to develop competencies of professionalism and humanism by building on their dedication to the fundamental ethical principles of medicine: beneficence, respect for patient autonomy, and justice, and motivated to consider humanism and professionalism in clinical medicine.

**Take-home Messages:** The MeP is a valuable curriculum to emphasize the importance of professional behavior to our medical students and to develop their aspirations and commitment to Medical Professionalism.

## #4HH Posters - Professionalism

### 4HHo8 (451)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

## Interventions for Medical Student Unprofessional Behavior: Factors Influencing Success

### AUTHOR(S):

- Michael Ainsworth, Univ of Texas Medical Branch - Galveston, USA (Presenter)
- Karen Szauter, Univ of Texas Medical Branch - Galveston, USA

### ABSTRACT

**Background:** Relationships between unprofessional behavior and academic outcomes are complex. We report insights from tracking and remediating student professionalism concerns.

**Summary of Work:** We use an Early Concern Note (ECN) program to identify professionalism lapses and provide individualized recipient feedback. We monitor the reason for the ECN -integrity/responsibility (IR), motivation to excellence/insight (ME), and compassion/respect (CR) - and student recognition of, and taking responsibility for, their actions. School-based intervention occurs for students receiving >3 ECNs, including continued monitoring, leave of absence, professionalism remediation program (PRP), or dismissal. The PRP is based on student behavior and may include working with faculty role models, reflective writing, community service, professional counseling, etc. We analyzed the reason for and student reaction to the ECN, interventions made, and academic outcomes of ECN recipients from 2010-2017 (N=344 students).

**Summary of Results:** Most students receiving ECNs received 1-2 during enrollment. Their academic outcomes were indistinguishable from students without ECNs. Twenty-one students (6%) had ≥ 3 ECNs, spanning a wide range of behaviors. During feedback meetings, all 21 had been classified as substantially challenged by professional behavior expectations, either “resistant but adaptable” (N=4) or “unwilling/unable to adapt” (N=17). Interventions included monitoring without sanctions, leave of absence, PRP, or dismissal. Ultimate academic outcomes were unrelated to reason for the ECN or participation in a PRP. All students classified as “resistant but adaptable” progressed/graduated regardless of whether a PRP had been prescribed. For students classified as “unwilling/unable to adapt”, 5 were allowed to continue without sanctions or take a temporary leave of absence - all progressed satisfactorily. Of the remaining 12 students, 6 were ultimately dismissed, either outright or after a PRP due to ongoing professionalism issues.

**Discussion and Conclusions:** Supportive interventions for students with 1-2 ECNs acknowledges that problematic behaviors may be transient, isolated and not indicative of long-term risk. Most students with ≥ 3 ECNs were able to progress or graduate with limited assistance, but those with the least insight/adaptability had a high recidivism rate.

**Take-home Messages:** Remedial interventions have a role in addressing unprofessional behavior, but learner capacity to adapt to professionalism norms appears to heavily impact ultimate success.

## #4HH Posters - Professionalism

### 4HH09 (1936)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Impact of a Professionalism Curriculum: Exploration of Undergraduate Students' Attitude

#### AUTHOR(S):

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- Li-Chuan Kuo, Department of Medical Humanities, School of Medicine, Tzu Chi University, Taiwan
- Mei-Lin Hsieh, Department of Nursing, School of Medicine, Tzu Chi University, Taiwan
- Yu-Hsien Lai, Division of Nephrology, Hualien Tzu Chi Hospital, Taiwan

#### ABSTRACT

**Background:** The trend of practicing medicine has gradually changed from physician-centred to interdisciplinary and inter-professional care. Recent studies have shown that skills such as teamwork, communication, and conflict resolution could be taught in the undergraduate curriculum. Based on constructivist theory, these topics are incorporated into the professionalism curriculum as part of a spiral curriculum of the seven-years medical education. The study aims to investigate the impact of the content and the curriculum on students' attitude in preparation for the development of social competencies.

**Summary of Work:** From 2017 to 2018, a total of 96 medical students in the 3rd year of Tzu Chi medical school in Taiwan participated in this 16-hours curriculum where each session was 4 hours. A didactic lecture was given first followed by experience sharing of invited speaker specialized in medical dispute. The third session was on interprofessional education. Health professionals in practice shared their experience, and a simulated video on clinical conflict was shown. The last session was on conflict resolution. Students filled out a questionnaire to learn their style under high stake situation. Concepts and demonstration of conflict resolution were taught by physicians. Students submitted a reflective assignment after completion of the curriculum.

**Summary of Results:** Qualitative data using thematic content analysis revealed that students' reaction to the course was mainly positive. Many students found the questionnaire to be helpful with emotional self-awareness. Most students faced interpersonal conflicts and were able to dissect and resolve conflicts. About half of the students felt offended by comments on the negative qualities of physicians during the interprofessional session.

**Discussion and Conclusions:** Students found the session on conflict resolution skills useful mainly due to high relevance to their daily life. The negative impact on the interprofessional session could be due to the gap in expectation of the competence of a physician in collaborative care as a result of a lack of clinical exposure. Perhaps positive role modeling of physicians' role would be more helpful for undergraduate students.

**Take-home Messages:** The design of the teaching format and objectives should correspond to the students' current developmental phase and situational need in a spiral curriculum.

## #4HH Posters - Professionalism

### 4HH10 (2760)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### How pre-clinical medical students report their perceived medical professionalism

#### AUTHOR(S):

- Chiung-hsuan Chiu, Taipei Medical University, Taiwan (Presenter)
- Chung-jen Wei, FuJen Catholic University, Taiwan

#### ABSTRACT

**Background:** While the authors designed medical professionalism instrument based on the code of conduct of major medical associations in the world, it deduced and defined medical professionalism with five dimensions: 'medical knowledge and clinical skills', 'interpersonal skills with patients', 'teamwork', 'duty for public health', and 'protection of patients' rights'. We are therefore able to define good doctoring and guide medical students to understand their roles of professionals based on the boundary of professionalism. To understand how medical students perceived their roles of physicians before practicing in clinical setting, this study is aimed to assess medical professionalism of pre-clinical medical students.

**Summary of Work:** This study collected data from 381 medical students of their pre-clinical (i.e. 1st to 4th year students) years of Taipei Medical University from March to May, 2018. This instrument to measure self-reported of medical professionalism included 50 items. Institutional Review Board (IRB) approval was obtained from Taipei Medical University (approval #201501031).

**Summary of Results:** Respondents consist of 203 male and 148 female. Result show that pre-clinical medical students report highest in 'protection of patients' rights', and lowest in 'duty for public health'. Medical students observe their colleagues and give lower evaluation to colleagues' medical professionalism, compared to their evaluation on their own professionalism.

**Discussion and Conclusions:** This result suggests that pre-clinical medical students place emphasis more on required competencies of healer, i.e. 'protection of patients' rights', 'teamwork', but less on public health obligations. Current curriculum should include public health issues and let medical students to assume their obligations of physicians.

**Take-home Messages:** 1. This result suggests that pre-clinical medical students place emphasis more on required competencies of healer, i.e. 'protection of patients' rights', 'teamwork', but less on public health obligations. 2. Current curriculum should include public health issues and let medical students to assume their obligations of physicians.

## #4HH Posters - Professionalism

### 4HH11 (3076)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What Medical Students Learned about Professionalism in a Hidden Curriculum: Medical Teacher and Resident Perspectives

#### AUTHOR(S):

- Saranya Prathaithep, Sunpasitthiprasong Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** According to a pilot study at Sunpasitthiprasong Hospital, Ubon Ratchathani, Thailand in 2018, students' perceptions on professionalism were explored from narrative writing about what events that thought them about professionalism during practice in internal medicine rotation. The findings suggest that role modelling is the most active learning process to transmit professional values throughout the hidden curriculum. This study aim to explore the perceptions of medical teachers and residents in internal medicine department who involved in students' learning processes at the same learning environment.

**Summary of Work:** Two main methods for collecting qualitative data were narrative writing with opened end question and focus group with semi-structured interviews. Firstly, the opened end question is "what events that students can learned about professionalism during practice in internal medicine rotation" was distributed by online questionnaire. Secondly, the questions for focus group designed to elicit their perspectives and attitudes toward teaching and evaluating professionalism for medical students. Thematic analysis of 9 narrative writing stories and semi-structured interview of 2 focus group were conducted.

**Summary of Results:** Nine narrative writing consisted of positive, negative and hybrid elements. Most of their experiences are in inpatient setting. The medical students, teachers, and patients are the main models in the stories. 4 main areas of professionalism are identified as attitude, knowledge and performance, appearance and ethical issues. Most of participants indicates that students learned about professionalism from either positive and negative role models. In focus group, most of them noticed that emotional issue might arise unprofessional behaviour due to stress and hard work in real situation. Additionally, they suggested emotional intelligence training might be an alternative approach to teaching professionalism to students.

**Discussion and Conclusions:** Narrative writing and reflection from focus group are rich of information to explore residents and teachers perspective on professionalism learning and teaching in hidden curriculum. Most of them perceived professionalism is essential to develop a good doctor. Role model is the most active learning process as a result from pilot study. The participants suggested that emotional training might be a training process to develop professional doctor. Ultimately, medical educators may use this results as the effective ways to develop professionalism competency.



## #4HH Posters - Professionalism

### 4HH12 (2473)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Professional Ethical Competences Questionnaire (PECQ) as a Tool for Evaluating Medical Students' Professional Ethical Competences

#### AUTHOR(S):

- Gordana Pavlekovic, University of Zagreb, School of Medicine, Croatia (Presenter)
- Lucija Murgic, University of Zagreb, School of Medicine, Croatia
- Marijan Klarica, University of Zagreb, School of Medicine, Croatia
- Ana Borovecki, University of Zagreb, School of Medicine, Croatia

#### ABSTRACT

**Background:** There is no doubt - medical ethics has extremely important place in medical curricula but it is still a challenge how successful are the aims of ethics teaching and it is still a great need to develop different assessment tools to evaluate medical students' ethical competences.

**Summary of Work:** This research was conducted with the main aim to develop an instrument for the assessment of medical students' professional ethical competences in patients' autonomy issues and to analyse trends in ethical competences among medical students in different years, according to their socio-demographic characteristics and desired specialization. Research was done in two phases. First, qualitative research was conducted in six separated focus groups (the first year medical students, final (6th) year medical students, teachers in medical ethics, physicians working in clinical hospitals, family medicine residents and patients with chronic disease). Obtained data were used to construct the instrument Professional Ethical Competence Questionnaire (acronym: PECQ). In the next phase, PECQ was administered to medical students of Zagreb School of Medicine: 1st year (N=291), 3rd year (N=121) and 6th year (N=124).

**Summary of Results:** Quantitative analysis of the PECQ Instrument revealed that different students' styles can be identified in dealing with patient autonomy issues. The most frequent style in medical decision taking was patient understood as a partner. The least frequent style was defensive/legalistic approach to the patient. Differences in students' answers were found according to their year of study, sex, desired specialization and place of growing up (urban/rural area). No differences were found in relation to parents' education, age and religiosity.

**Discussion and Conclusions:** PECQ instrument will be presented and analysed. Results show that ethical problems regarding patients' autonomy issues should deal appropriately and each question in PECQ instrument should be analysed separately in line with the clinical context described in vignette.

**Take-home Messages:** PECQ is an applicable and useful instrument to assess medical students' professional ethical competence in patients' autonomy issues.

## #4HH Posters - Professionalism

### 4HH13 (1702)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Professionalism development through two different clinical clerkship programs: an autobiographical narrative approach

#### AUTHOR(S):

- Hsin-Mei Pan, National Defense Medical Center, Taiwan (Presenter)

#### ABSTRACT

**Background:** Comparing to other medical schools in Taiwan conducting rotation-based clerkship only, National Defense Medical Center is the one that provides two different clinical clerkship programs, both aiming to support the future doctors to develop professionalism, referring to the six core ACGME competencies: rotation-based clerkship (RBC) and longitudinal integrated clerkship (LIC). The students are expected to choose between these two programs base on personal interests. Those choosing RBC are required to complete their clerkship on a biweekly-and-specialty base while observation and shadowing of clinical work in inpatient units account for the most of their learning experience. As for LIC trainees, their clerkship is divided into two parts: the first is a five-month multi-specialty integrated clerkship emphasizing on the continuity of patient-centered care and self-discipline approach of their clinical schedule while the followed second part is designed the same as RBC program. Due to the structure of LIC, the LIC trainees have the feasibility to explore their professionalism development in the context of two different clinical clerkship programs.

**Summary of Work:** This work aims to reveal the authors, a pre-LIC-trainee, journey of professionalism development and highlight the significance of analyzing learning experience when it comes to the discussion of medical education. The method applied is autobiographical narrative, through which the author engages herself thoroughly, looks back on the experience systemically, and reflects critically on the events during clerkship that mark as the transition points and/or milestones of her medical professionalism development.

**Summary of Results:** The author's professionalism development couldn't be completed without any of the learning experience from two different clinical clerkship programs. The author acknowledges the LIC program empowers her with the art of practice lasting lifelong while the RBC program enables her clinical reasoning capability and orients her to pursue further medical specialty.

**Discussion and Conclusions:** The conclusion of this autobiographical-narrative-based work may not be applied universally, however, this work signifies the importance of comprehensive and multi-approach of medical education: any of the program mentioned alone may fail to fulfill the author's professionalism development.

**Take-home Messages:** Students' critical reflection on their learning experience and comprehensive, multi-approach methodology are the key elements when it comes to the future of medical education.

## #4HH Posters - Professionalism

### 4HH14 (2550)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Ethics and Professionalism Training in Pakistani Medical Education: STMU/Shifa Experience

#### AUTHOR(S):

- **Muhammad Saeed, Shifa Tameer e Millat University, Pakistan (Presenter)**
- Muhammad Iqbal Khan, STMU, Pakistan
- Rafeh Saeed, CPSP, Pakistan
- Tatheer Zahra, STMU, Pakistan
- Manahil Saeed, UHS, Pakistan
- Ashraf Hussain, STMU, Pakistan

#### ABSTRACT

**Background:** There has been growing interest in the instruction and assessment of professionalism. Shifa College of Medicine, Shifa Tameer e Millat University (STMU) introduced instruction of Medical Ethics & Professionalism longitudinally throughout five year MBBS integrated spiral curriculum, through Role modelling; Role plays; Video demonstrations; Case studies and Didactic instruction by regular faculty and visiting community leaders. Professionalism is perceived differently from one culture to another. We, therefore, conduct this research to identify the attributes of professionalism in Pakistani medical students.

**Summary of Work:** The study consists of two stages. Using grounded theory approach and triangulation, we interviewed 15-randomly selected 3rd year MBBS students, to identify good and bad behaviours of Medical students. The interviews were continued until the data was saturated. The emerging issues were then arranged into the questionnaire. In 2nd stage, medical students were asked to rate the importance of each issue on a 5-point Likert scale (1-not important & 5-absolutely important).

**Summary of Results:** In the first stage, 50 issues arose from interviewing 15- randomly selected undergraduate medical students (10-girls and 5-boys). The importance of these items, at the end of the second stage, ranged from 2.80 to 4.85. Three most important items highlighted by the students were: (1) being late or absent from class; (2) posting a patient's/ peer's/teacher's photo on social media without prior permission; and (3) giving incorrect information to teachers/administration of medical college/patients. The items with lowest scores were: (1) sleeping in classroom; (2) taking photos of medical records; and (3) eating in the class rooms/ Labs.

**Discussion and Conclusions:** It is interesting to know that Pakistani Medical students are well versed with the medical ethics and professional values at the very beginning of their professional career. Our students valued punctuality, honesty, integrity and informed consent as important professional attributes of professionalism. We hope that our research will contribute to the literature in professionalism.

**Take-home Messages:** Medical Ethics & professionalism instruction and assessment is an integral component of undergraduate medical education. It is quite possible even in a resource constrained environment, like STMU-Pakistan.

## #4HH Posters - Professionalism

### 4HH15 (3135)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What do Medical Students Learn about Professionalism from Observation Learning in Patient and Family Advisory Councils in China?

#### AUTHOR(S):

- Shaoting Feng, The First Affiliated Hospital, Sun Yat-sen University, China (Presenter)
- Ming Kuang, The First Affiliated Hospital of Sun Yat-sen University, China
- Suqing Yang, The First Affiliated Hospital of Sun Yat-sen University, China
- Jingsong Wang, The First Affiliated Hospital of Sun Yat-sen University, China
- Haipeng Xiao, The First Affiliated Hospital of Sun Yat-sen University, China
- Tinghuai Wang, The First Affiliated Hospital of Sun Yat-sen University, China

#### ABSTRACT

**Background:** Observation Learning in pre-clinical years is an important part of early involvement in clinical practice for medical students in China. Initiated by Sun Yat-sen University, it has been widely accepted and playing a significant role in medical professionalism education in many medical colleges after 20 years development. Increasingly, healthcare organizations are adopting patient and family advisory councils (PFACs) as a key strategy to improve patients' healthcare experience. The project consisted of pre-clinical students taking the program of "early involvement in clinical practice" in the First Affiliated Hospital of Sun Yat-sen University, who were from Grade 1 to Grade 3 of medical college. In 2018, 268 students participated in this program were arranged to observe the PFACs in their elective departments of our hospital during their winter/summer vacations. 257 Narratives based on their observations were collected and each student offered his or her reflections on their own narrative

**Discussion and Conclusions:** Students' responses were overwhelmingly positive in both written and oral feedback. The majority (95%) were deeply impressed by the observation learning in PFACs. It not only illustrated them how doctors communicating with patients, but also offered them opportunities hearing voices of the patients, exerting an imperceptible influence on their mind of essential principles of medical professionalism, such as humanism, responsibility, altruism and excellence. Reinforcement on medical professionalism were shown in students' narratives and reflections. Observation learning in PFACs for pre-clinical students is a positive way for shaping professionalism in pre-clinical years of medical education. It can help developing students' empathy with patients, communication skills, as well as better understandings for the doctor-patient relationships. Narratives and reflections written by students could deepen their understandings of the values and principles of professionalism in pre-clinical years.

## #4HH Posters - Professionalism

### 4HH16 (2076)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The essential attributes of professionalism in Family Medicine: opinions from program directors in Taiwan

#### AUTHOR(S):

- Chi-Wei Lin, E-Da Hospital/ I-Shou University, Taiwan (Presenter)
- I-Ting Liu, E-Da Hospital/ I-Shou University, Taiwan
- Ruyi Huang, E-Da Hospital/ I-Shou University, Taiwan
- Jin-Shang Wu, National Cheng-Kung University, Taiwan
- San-Nan Yang, E-Da Hospital/ I-Shou University, Kaohsiung
- Ming-Nan Lin, Dalin Tzu Chi Hospital, Taiwan

#### ABSTRACT

**Background:** Professionalism is an important basis in forming medical profession. As possessing the double roles of healer and professional, the generally accepted attributes of medical professionalism are not easy to define, let alone for specific specialists. This research aims to explore the opinions of program directors and tries to reach a consensus within family medicine society in Taiwan.

**Summary of Work:** We conducted a survey in October 2018 during an academic conference held by Taiwan Association of Family Medicine. The differences of professionalism between Taiwan and western societies, differences of professionalism between Family Medicine and other specialties, and the most favorable framework of professionalism for family medicine in Taiwan were investigated. Meanwhile, the participants were asked to select 10 most relevant attributes of professionalism for family physicians from 28 attributes derived from literature review.

**Summary of Results:** There are 45 participants completed this survey. Most participants (68.9%) regarded that there are no major differences of professionalism between Taiwan and western societies in definition. More than half of the participants (53.3%) considered the attributes of professionalism are similar between family physicians and other specialists. Most participants (60%) suggested the four aspects of professionalism in The Family Medicine Milestone Project initiated by ACGME and ABFM could be the suitable reference framework. Finally, the highly ranked attributes of professionalism for family physicians picked by the participants are competence, altruism, continuity, communication, and accountability. The least important attributes are respecting for the healing function, resilience, self-regulation, confidentiality and maintaining self-health.

**Discussion and Conclusions:** Most participants regarded there are no major differences in professionalism between Taiwan and western societies, or between family physician and other specialists. But more participants disagreed the identity of professionalism between specialties than different cultural backgrounds. Maintaining continuous care and communication are uniquely valued in family medicine. On the other hands, some newly emerging topics such as resilience and maintain self-health are not yet the main consideration among these directors.

**Take-home Messages:** General professionalism framework could be practical reference for family medicine but need some modification to fit in specific specialty and local cultural context.



## #4HH Posters - Professionalism

### 4HH17 (2252)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical professionalism: Development of an evaluation instrument for the resident physician

#### AUTHOR(S):

- Ruth Dias, Universidade José do Rosário Velano - Hospital Universitário Alzira Velano - Unifenas, Brasil (Presenter)
- Ranielly Andrade, Universidade José do Rosário Velano - Hospital Universitário Alzira Velano - Unifenas, Brasil

#### ABSTRACT

**Background:** The attributes and functions used to define professionalism are to recognize the behaviors that must be evidenced in the doctor-patient relationship, which is its essence, but also in relations with other physicians, colleagues in the health care system, society and of himself. All attitudes must be aligned with the values and attitudes that form a collective barrier of professionals that have emerged within medicine.

**Summary of Work:** This study was divided into 2 phases: Adaptation and Application of a methodologically based instrument (Based on the evaluation and the certification examination of the residents of the Family Medicine of Canada - The College Family Physicians of Canada) to measure physician professionalism in the resident doctors of the University Hospital Alzira Velano, aiming to evaluate their degree of professionalism in 12 topics, comparing the variables such as gender, age group, year of residence and academic performance.

**Summary of Results:** Under the reliability analysis in the application of both preceptors, we obtained a high Cronbachs alpha index. We found a higher degree of professionalism in residents of the second year of residence and the highest and lowest averages found in the groups with more and less professionalism respectively and without differences in sex and age group, but can not be proved statistically. In the analysis of conglomerates, we obtained 3 different groups (minor, intermediate and higher professionalism) that did not present significant difference in the correlation with academic performance.

**Discussion and Conclusions:** The evaluation of professionalism implies the need for collective information to provide feedback. The scale of evaluation of professionalism showed a high internal consistency, but with highly correlated items. Factors such as gender and age did not show a significant difference in the degree of medical professionalism, as well as the year of residence. There was no correlation between academic performance and the degree of statistically significant professionalism. More studies will be necessary, with a higher n, to determine their use in undergraduate contexts and to study the associations of students attitudes towards professionalism.

**Take-home Messages:** Evaluating professionalism is more difficult than teaching professionalism because of the subjectivity of the elements and because no single assessment tool can capture all the elements.

## #4HH Posters - Professionalism

### 4HH18 (2634)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A Study of Medical Professionalism in 6th Year Medical Students and Intern Doctors in Vachiraphuket Hospital

#### AUTHOR(S):

- Patipan Juntamongkol, Medical Education Center Vachiraphuket Hospital, Thailand (Presenter)
- Apiporn Puengdej, Medical Education Center Vachiraphuket Hospital, Thailand
- Warisa Archeewarangabrok, Medical Education Center Vachiraphuket Hospital, Thailand
- Withita Jangiam, Medical Education Center Vachiraphuket Hospital, Thailand

#### ABSTRACT

**Background:** Medical professionalism is an essential skill for medical practitioners. According to American Board of Internal Medicine, medical professionalism consists of 6 aspects: altruism, accountability, excellence, duty, honor/integrity and respect for other. Medical students can learn these skills during clinical clerkship in a medical school theoretically by lectures and practically by imitating their seniors and staffs. In Vachiraphuket hospital the 4th and 5th year medical students are in close contact with 6th year medical students and intern doctors. These personnel are crucial role model for medical student in professionalism.

**Summary of Work:** We conducted a survey in 44 6th year medical students and intern doctors by using a questionnaire developed by Sumalrot, T. (2017) which is modified from The Penn State College of Medicine Professionalism Questionnaire (2007). It contains 32 items and the score ranges from 0 to 5 in each item. It also collects the individual information including sex, income, school record, years of work and specialty interest to evaluate the correlation between these factors and professionalism. The results were analyzed by SPSS.

**Summary of Results:** Out of 44 cases, 31 were female. Professionalism was assessed in 6 attributes and reported in average score in each attribute and totality. Maximum 6-attributes average score was 4.94, minimum was 2.44 and mean was 4.04. Altruism was the highest score while excellence and duty were the lowest. Based on ANOVA test, sex, income, school record, year of work and specialty interest did not have statistically significant difference in assessed knowledge of medical professionalism.

**Discussion and Conclusions:** Majority of 6th year medical students and intern doctors in Vachiraphuket Hospital have medical professionalism in good level. Other factors do not impact on medical professionalism. However, medical students learn these values during their formal education, certain aspects of professionalism seem to be underdeveloped in medical students and need to be targeted for teaching and assessment in order to develop professionally responsible practitioners.

**Take-home Messages:** Medical student could learn medical professionalism by imitating their senior students and intern doctors and also it is necessary at the undergraduate and postgraduate levels will certainly be a requirement of the continuing professional development of the future.

## #4HH Posters - Professionalism

### 4HH19 (2072)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Attitudes and awareness of healthcare professionalism in social media

#### AUTHOR(S):

- Surasak Aumkaew, Buriram Medical Education Center, Thailand (Presenter)
- Narin Chindavech, Buriram Medical Education Center, Thailand
- Rungrana Pengprakhon, Buriram Medical Education Center, Thailand
- Yada Siriphannon, Buriram Medical Education Center, Thailand

#### ABSTRACT

**Background:** In this era, healthcare personnel have widely used social media for searching information, expressing idea, personal opinion, interest and communication. However, in some situation social media is not only limited to one ordinary person but also issue of professionalism aspect. Acknowledgement in attitudes and behavior in physicians will find the solutions and solve this social media conflicts.

**Summary of Work:** A cross-sectional analytic-study in tertiary, non-university hospital with online questionnaires consisted of attitudes in 16 of case-scenarios in social media used were sent to clinical years of medical students, junior doctors and medical staffs. The data was analyzed in 7 dimensions according to professionalism in Thailand social media guideline for healthcare personnel 2017.

**Summary of Results:** One hundred and three questionnaires were replied; 70 (68%) medical students, 15 (15%) junior doctors and 18 (17%) medical staffs. Medical staffs had significantly better social media awareness by ten points rating scales (5.40, 4.20 and 6.77 in medical students, juniors doctor and medical staffs, respectively;  $p=0.00$ ). In aspects of 7 dimensions of professionalism, the medical staffs had better attitudes than other groups in 5 dimensions of I) "Pausing before posting", II) "Appropriate behavior online", III) "Privacy setting and separating personal and professional information", IV) "Periodic self-auditing" and V) "Professional boundaries with patients" but no significantly different in the remaining dimensions VI) "maintaining professionalism" and VII) "Professional boundaries with others".

**Discussion and Conclusions:** All medical students, junior doctors and staff had positive attitudes in social media using in protection of patient privacy, from harm and beneficence but might had better opportunity to improve attitude in emotional expression, appropriate behavior whether on duty or not. The privacy setting should be bounded between doctors and patient and determined appropriate relationship. Better professionalism attitude of staffs might be from more working periods and life experience. Medical students should realize double-edged swords of social media, all dimensions of professionalism in social media must be aware contributed to proper and appropriate used in the communication era.

**Take-home Messages:** Multidimensional aspects of professionalism augment better attitudes and concern of social media use in healthcare personnel.

## #4II Posters - Curriculum Subjects 2

### 4II01 (3436)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Virtual Interactive Patient Encounter to Teach Evidence-Based Medicine and Pharmacotherapy in Pre-Clinical Undergraduate Medical Students

#### AUTHOR(S):

- Alexander Mozeika, Rutgers New Jersey Medical School, USA (Presenter)
- Rijul Asri, Rutgers New Jersey Medical School, USA
- David Cennimo, Rutgers New Jersey Medical School, USA
- Sophia Chen, Rutgers New Jersey Medical School, USA
- Sangeeta Lamba, Rutgers New Jersey Medical School, USA

#### ABSTRACT

**Background:** Medical education is increasingly employing practical and simulation-based learning for key clinical concepts due to their comparative efficacy to didactic modalities. However, current practices, such as evidence-based medicine (EBM) education, are limited in breadth of content due to their significant costs. We propose a novel Virtual Interactive Patient (VIP) system to introduce more simulation-based, practical education in preclinical curriculum.

**Summary of Work:** The VIP system, generated using broad-access survey technology, requires learners to select necessary aspects of the patient workup, including history, physical examination, laboratory studies, and imaging studies, to generate a differential diagnosis and management strategies. The system expands traditional Observed Standardized Clinical Encounter models to better simulate real clinical practice. Our study utilizes this VIP system to administer a capstone exercise in a longitudinal preclinical EBM curriculum.

**Summary of Results:** Student-reported comfort with evidence-based resources to manage clinical scenarios significantly increased (29.7%,  $p < 0.01$ ) after completion of the exercise, with 79.1% of students citing a validated evidence-based resource. EBM-oriented behaviour captured in the VIP system showed 83.6%, 88.1%, and 7.90% of students correctly focusing their history, physical examination, and laboratory options, respectively. Of all students with the correct differential diagnosis, 97.7% administered a complete order, with 69.4% covering for fungal etiologies, 31.2% covering for bacterial etiologies, 5.88% covering for viral etiologies, 3.53% recognizing PCP prophylaxis, and 87.6% minimizing IRIS-risk.

**Discussion and Conclusions:** The VIP system provides a resource-effective mechanism to teach and assess clinical behaviour of preclinical students. The practical nature of the VIP system allowed for the capture of student reaction, indicated by increased student comfort with EBM resources, and of student learning, indicated by the completeness of final treatment regimens. It also allowed for an assessment of student behaviour, a traditionally elusive assessment, through real-time data analysis. Deficiencies identified through the VIP system better inform targeted curricular change.

**Take-home Messages:** Several aspects of medical education require early, practical exposure for effective learning, but current modalities incur high costs. Our VIP system, characterized here as an effective tool for teaching and assessing EBM, minimizes these concerns, thus improving integration of simulation-based exercises in preclinical education.

## #4II Posters - Curriculum Subjects 2

### 4II02 (2553)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A reflective practice case study on guiding organization of knowledge in teaching pharmacology to large groups

#### AUTHOR(S):

- Gavin Dawe, National University of Singapore, Singapore (Presenter)

#### ABSTRACT

**Background:** As learners progress from novice to expert they develop increasingly interconnected and structured organization of knowledge. Without a coherent knowledge framework, novice students frequently learn pharmacology by memorizing lists of drugs and their characteristics. In contrast, experts anchor understanding of the same drugs within a highly structured and densely connected knowledge framework. Starting from the premise that “how students organize knowledge influences how they learn and apply what they know,” approaches were implemented to guide students in developing organization of knowledge.

**Summary of Work:** A reflective practice case study examined practices to guide organization of knowledge in teaching pharmacology to large groups. The case selected was teaching on non-steroidal anti-inflammatory drugs for year two undergraduate medical students. Teaching practice over the last five years was examined. Teaching involved a lecture to approximately 300 medical students. During the lecture, strategies to encourage organization of knowledge included (1) explicit sharing of expert knowledge organization, (2) contrasting examples to illustrate organizational features, (3) explicitly drawing attention to connections and structural principles. Knowledge organization was further reinforced with (4) sorting quizzes delivered by live interactive audience polling, and post-lecture by (5) knowledge organization tasks online, and (6) identification and explanation of problems with knowledge organization through online tutoring.

**Summary of Results:** Qualitative feedback was positive and suggested that guiding students to develop organization of knowledge was well received. However, student comments did not explicitly reflect an awareness of being guided in knowledge organization. Instead, they reflected an appreciation that the lecturer was “systematic and clear in his explanations,” and that “the content is structured logically” such that it “increases understanding” and “helps us with application of knowledge.”

**Discussion and Conclusions:** Organization of knowledge is essential for the advancement of learners from novice to expert. Without appropriate knowledge organization, students resort to rote memorization, which makes them perceive the topic as difficult, adversely affecting motivation to learn. Even in large group settings, students can be guided to develop interconnected and structured frameworks of knowledge.

**Take-home Messages:** Strategies to guide the organization of knowledge in teaching pharmacology to large groups can facilitate student learning.



## #4II Posters - Curriculum Subjects 2

### 4II03 (321)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Student Recognition of Prescription Opioid Misuse

#### AUTHOR(S):

- Karen Szauter, University of Texas Medical Branch, USA (Presenter)
- Dawnelle Schatte, University of Texas Medical Branch, USA

#### ABSTRACT

**Background:** In the USA, 46 people die every day from prescription opioid overdose. Many opioid abusers acquire medications from a friend or relative, and drug diversion is a factor in 50% of overdose fatalities. We questioned whether medical students would identify, discuss, and/or document opioid misuse during a patient encounter.

**Summary of Work:** Data for this study were obtained from a standardized patient (SP)-based clinical skills assessment (CSA). In 2018, two scenarios (chronic pain) were modified to include opioid misuse. When prompted about modifiers of pain, the SP freely volunteered Vicodin (acetaminophen-hydrocodone) use, having obtained it from a friend (Case 1) or her husband (Case 2). Students wrote a patient note after the encounter. We reviewed encounter video-recordings and documented whether/how the student responded to the admission of non-prescribed opioid use. We grouped responses as clarification (e.g.: “how much did you take”) or patient education (e.g.: “you should not use another person’s medications”). We transcribed the relevant note content. Chi-square and effect size were calculated.

**Summary of Results:** Case 1 (n=110): 71(64.5%) students discussed the patient’s Vicodin use and 83(75.5%) documented it in the patient note. In contrast, Case 2 (n=112): 30(26.7%) students discussed, and 97(86.6%) documented. Rates of discussion differed between the two cases, chi-square (1, n=222) = 31.909, p=.000 with a medium effect size (Phi=.379). When discussed, a patient education response occurred for Case 1: 40/71(56.3%) and Case 2: 14/30(46.7%). No verbal/written acknowledgment was noted for approximately 9% of students for each case.

**Discussion and Conclusions:** The majority of our students did acknowledge the patient’s Vicodin use (verbally or written) but opportunities to educate the patient about prescription opioid misuse were typically missed. Differences between the two cases was striking. Possible explanations for our findings include discomfort in addressing this with patients, or a rationalization for use based on the drug source.

**Take-home Messages:** Addressing the opioid crisis is complex and urgent. Providing foundational education and practice opportunities for learners to identify and counsel all patients with opioid misuse is a beginning. Additionally, prevention of drug diversion is necessary. Training students to counsel every patient receiving prescription opioids on the safe use, storage, and disposal of these drugs is essential.

## #4II Posters - Curriculum Subjects 2

### 4II04 (2802)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### “Makes me like a real doctor”. A students’ & instructors’ evaluation of students using e-prescribing program

#### AUTHOR(S):

- Hemmaraj Sukapun, Lampang Medical Education Center, Thailand (Presenter)
- Wachiraporn Arunothong, Lampang Medical Education Center, Thailand
- Ravin Sony, Lampang Medical Education Center, Thailand

#### ABSTRACT

**Background:** The skills of using an electronic health records (EHR) is essential for clerkship medical students. Practically, there are concerns that result in refuse permission of medical students to use full function of EHR. Students are allowed only read and access to EHR. They have never completed the full steps of using EHR before graduation.

**Summary of Work:** We developed an e-prescribing program for clerkship medical students. This program is an extended program that embedded in our hospital’s EHR. We create specific accounts for students, and allow them to access, read, and write on the records. The program does not execute students’ notes, diagnoses, or orders. The instructor needs to approve before executing. This program aims to use in an OPD teaching class. Besides, it aims to teach ICD-10, and how to prescribe medications accordingly. Before implementation, we trained both students and instructors. At the OPD teaching class, each student used the program while taking history and examining his/her patient. After completing patient’ evaluation and document, each student presented his/her case to the instructor to review and approve. Students and instructors’ rated their satisfaction of the program on the evaluation forms.

**Summary of Results:** All of the students and instructors completed the evaluation forms. 75% of both groups satisfied with the program. Majority of the students said they read a drug alert sign before prescribing. With the instructors’ confirmation after examining the patients, students felt confident of making a diagnosis with ICD-10 and prescribing. However, 50% of them still had difficulty using the program and thought that the program interfered doctor-patient’s communication. All of the instructors agreed that the program helps students concisely documenting the doctor’s note, precisely using ICD-10 to make a diagnosis, and carefully reading a patient’ history and a drug alert sign.

**Discussion and Conclusions:** E-prescribing improves students’ skills in using ICD-10 to make diagnoses. Students gained confident after practicing the program with the instructors. The program provides opportunities to prepare medical students for their future roles.

**Take-home Messages:** Our own developed E-prescribing program provides experience of using a real-world EHR to the students.

## #4II Posters - Curriculum Subjects 2

### 4II05 (613)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluation of an evidence-based medicine educational intervention for Radiology Technologist Interns

#### AUTHOR(S):

- Yi Hsin Su, Taipei Medical University Shuang-Ho Hospital, Taiwan (Presenter)
- Yi Chun Huang, Taipei Medical University-Shuang Ho Hospital, Taiwan
- Ming Hui Chang, Taipei Medical University-Shuang Ho Hospital, Taiwan
- Yi Hsien Lin, Taipei Medical University Shuang-Ho Hospital, Taiwan
- Chen Yu Chien, Taipei Medical University Shuang-Ho Hospital, Taiwan
- Chi Jen Chen, Taipei Medical University Shuang-Ho Hospital, Taiwan

#### ABSTRACT

**Background:** Evidence-based medicine is the process of finding, appraising, and using contemporaneous research findings as the basis for medical decisions. Radiology Technologist Intern's EBM teaching was restricted by lack of curriculum time, trained tutors and teaching materials. This study aimed to measure the effectiveness of these integrated EBM skills development project activities for Radiology Technologist Intern.

**Summary of Work:** The experimental group was made up of Radiology Technologist Intern from the hospital. The Intern received training on EBM. During the regular academic sessions, clinical questions requiring EBM literature searching skills were incorporated in the curriculum. Tests on knowledge and self-assessment of competencies were administered to all participants at the beginning and at the end of the semester. Data were analyzed using SPSS 20.

**Summary of Results:** Totally seventeen participants in the experimental group. In the knowledge test, there was a significant difference between the initial and final testing for the experimental group ( $p < 0.0001$ ). On the other hand, Self-assessment of competencies test, There was a significant difference between the initial and final self-assessments for the experimental group ( $p < 0.0001$ ).

**Discussion and Conclusions:** Overall, the intervention had a positive effect on knowledge and self-perception of competencies for intern in the experimental group. The Intern increased their knowledge of EBM with the training sessions. Results from the self-assessments were consistent with results from the knowledge test, suggesting that intern gained more knowledge, but also felt more comfortable and competent to use their newly acquired skills.

**Take-home Messages:** The study demonstrated that the educational intervention used to integrate EBM learning in a Radiology Technologist Intern was effective as students gained knowledge about this topic and were more confident to use their EBM skills. It also demonstrated that longitudinal integrated learning activities were more effective in acquiring knowledge and mobilizing student EBM competencies. Hopefully, this study will contribute to ensuring that future Radiology Technologist Intern be better equipped for EBM practice at whatever site they are trained.

## #4II Posters - Curriculum Subjects 2

### 4IIo6 (2710)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Long-term impact of the Primary Trauma Care course in the Kongo Central province of the Democratic Republic of Congo

#### AUTHOR(S):

- Timo Tolppa, King's Kongo Central Partnership, Democratic Republic of Congo (Presenter)
- Achim Vangu, King's Kongo Central Partnership, Democratic Republic of Congo
- Constant Balu, Université Joseph Kasa Vubu, Democratic Republic of Congo
- Patricia Matondo, Hôpital Provincial de Référence de Kinkanda, Democratic Republic of Congo
- Elizabeth Tissingh, King's Kongo Central Partnership, UK

#### ABSTRACT

**Background:** Trauma constitutes a growing burden of disease, yet trauma care remains rudimentary. One effective approach to improving trauma care is education.

**Summary of Work:** The two-day Primary Trauma Care (PTC) course was introduced to improve trauma care in Kongo Central province of the Democratic Republic of Congo. The aim of this study was to evaluate the impact of PTC on the long-term knowledge and attitudes of healthcare workers, as knowledge attrition may inform timing of refresher courses and persisting attitudes may impact the acceptance of trauma systems development. A retrospective cohort study was carried out comparing multiple-choice questionnaire (MCQ) results of PTC attendees prior to the course, immediately after and at the time of follow up at either 12, 16 or 24 months. A semi-structured questionnaire was administered to assess attitudes.

**Summary of Results:** A total of 51 participants (63.8%) responded. Participants were predominantly male (71.2%) with a mean age of 41.6 years. There was an increase of 4.8 in MCQ scores post-PTC ( $p < 0.01$ ). Compared to post-course, MCQ scores did not decline after 24 months ( $p < 0.01$ ). A total of 61% reported that equipment has not been available for procedures and 88.2% felt trauma systems could be improved. Most (84.7%) felt PTC made a positive impact to patient care and all believed trauma services to be important.

**Discussion and Conclusions:** We have not demonstrated significant knowledge attrition over 24 months, suggesting there is no need for a refresher course within two years. Participants felt that PTC resulted in better care for patients. However, participants also felt that their environment was not conducive to good trauma care, due to lack of equipment and underdeveloped trauma systems. Ultimately, participants' positive views regarding the importance of trauma may promote the development of trauma services in their region.

**Take-home Messages:** 1) This first study into the long-term effects of PTC found that significant knowledge attrition does not occur within two years post-course. 2) In resource-limited settings, education represents an important first step in improving access to trauma care and may produce advocates for the development of effective trauma systems.

## #4II Posters - Curriculum Subjects 2

### 4II07 (1820)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Effectiveness of aviation physiology and medicine training course among medical students in Taiwan

#### AUTHOR(S):

- Chung-Yu Lai, Aviation Physiology Research Laboratory, Kaohsiung Armed Forces General Hospital Gangshan Branch, Taiwan (Presenter)
- Min-Yu Tu, Aviation Physiology Research Laboratory, Kaohsiung Armed Forces General Hospital Gangshan Branch, Taiwan
- Chun-Cheng Liu, Kaohsiung Armed Forces General Hospital Gangshan Branch, Taiwan
- Hsin Chu, Institute of Aerospace and Undersea Medicine, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** National Defense Medical Center (NDMC) is the only military medical college in Taiwan. Since 2018, NDMC has added the topic of aviation physiology and medicine in clerkship to increase the diversity of the contents. The purpose is to make medical students learn more about this specialty.

**Summary of Work:** Aviation Physiology Research Laboratory (APRL) collaborated with NDMC to plan, organize and implement this 2-day aviation physiology and medicine training course for 5th-year medical students. The course focused on three flight safety issues, including hypobaric hypoxia (HH), spatial disorientation (SD), and G-force induced loss of consciousness (GLOC). Hypobaric chamber, SD trainer, and human centrifuge were applied to be teaching equipment. The goal is for students to be able to introduce individual flight safety issue integrated with related training equipment after the course. We adopted pretest and posttest design to evaluate the effectiveness of this intervention. Flight safety issue apprehension was assessed by four dimensions, including oral expression, physiological effect, equipment function, and time control. The range of score was from 0 to 25. Statistical analysis was performed using SPSS 22 software.

**Summary of Results:** From October 2018 to January 2019, 74 medical students completed this course. There were 64.9% male and 35.1% female students, whose mean age was 23.7 years. Pretest scores were 5.3, 4.9, and 4.9 for the topics of HH, SD, and GLOC, respectively; while the corresponding posttest scores were 17.8, 18.5, and 17.2. The pretest and posttest scores for the three topics were significantly different examined by pair t test (all p values <0.001).

**Discussion and Conclusions:** After completion of this course, we improved students' knowledge of aviation physiology and medicine in specific topics. Practical training is a good way to enhance students' performance in this field. This short-term training also encourages them to explore the difference between aviation medicine and clinical medicine.

**Take-home Messages:** A well-designed clerkship in APRL provides an opportunity for students to appreciate the goal of aviation physiology and medicine: understand physiological changes in flight, design countermeasures to maintain the safety and performance of aircrews.



## #4II Posters - Curriculum Subjects 2

### 4IIo8 (811)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' evaluation on Traditional Medicine course in 4th year medical students: Qualitative study

#### AUTHOR(S):

- Watcharin Ratanakasettin, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Presently, traditional medicine is the most popular trend of global health. It has been reintroduced and integrated into Thai national health system as a means to promote health and self-care of people. There is a challenge for integrating traditional medicine into the medical curriculum in the modern medicine era. As WFME Global standards suggested, evaluation on the designed curriculum needs to be assessed to improve student's experience and learning outcome.

**Summary of Work:** A qualitative research by content analysis method was used to evaluate 4th year medical students' attitudes toward traditional medicine courses in year 2017. There were 2 patterns of learning modes. The older one was lecture-based learning. The new one was Practice-based learning. The evaluation was divided into different aspects including learning experience, application to the patient care, organizing activities and course feedback. Attitudes toward old and new courses were compared and analyzed

**Summary of Results:** From 44 participants, almost all of the students in practice-based learning group (95.45%) mentioned that the hand-on practice was helpful for them to learn and understand more about the value and the components of Thai traditional medicine. 59.09% feel more confident to advise and choose the appropriate traditional medicine for patients, compared to lecture-based learning. And 63.64% of both groups would like to further study traditional medicine. The baseline characteristics of both groups were not different. Additionally, summation of evaluation scores in post-tests of the new group tended to increase compared with pre-tests, which reflected the knowledge part of the students.

**Discussion and Conclusions:** In the conclusion, traditional medicine courses can open new perspectives and experiences for medical students and can encourage them to offer traditional medicine as a part of their treatment. As medical students didn't have any basics of traditional medicine before class and limited learning periods in both groups, the practice-based learning group was better than lecture-based learning.

**Take-home Messages:** Integration of Thai traditional medicine into the medical curriculum can promote its value and usage in Thai national health system.

## #4II Posters - Curriculum Subjects 2

**4II09** (3299)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Human Papilloma Virus in Portugal: Biomedical Sciences students' knowledge and perceptions

#### AUTHOR(S):

- Amadeu Borges-Ferro, Escola Superior de Tecnologia da Saúde de Lisboa - Instituto Politécnico de Lisboa, Portugal (Presenter)
- Ana Chinita, Escola Superior de Tecnologia da Saúde de Lisboa - Instituto Politécnico de Lisboa, Portugal

#### ABSTRACT

**Background:** Human PapillomaVirus (HPV) is responsible for a high number of infections in the sexually active population, especially in individuals between 16 and 25 years old and in the first years after sexual initiation. It is proven the association of this infection with malignant tumors, particularly Cervical Cancer. The relationship of HPV and other malignancies, such as cancer of the penis and oropharynx, has gained importance in recent decades. HPV is therefore a major health problem that affects both women and men. It is important to understand the knowledge of undergraduate health students since they will be future professionals who will play an important role in HPV prevention, diagnosis and treatment.

**Summary of Work:** The main goal of this study is to verify the level of HPV knowledge and awareness among undergraduate students of Biomedical Sciences in Portugal. To investigate students knowledge about HPV, a 34 questions online questionnaire was developed. A total of 111 questionnaires were obtained, with most of the participants being girls (92.24%) and 21 years old the most frequent age (23.28%).

**Summary of Results:** All respondents stated that they had heard about HPV and all indicated Cervical Cancer as the most important consequence of HPV infection. Most individuals specified that educational institutions were the main source of their HPV knowledge (93.1%). When questioned about the association of HPV with different diseases, only 14.66% of individuals selected wrong answers. Considering HPV prevention, 52.24% selected wrongly "Use of oral contraceptives". Most participants were correct about HPV transmission and risk behaviours. However, 55.78% answered incorrectly concerning HPV symptoms. Knowledge about vaccination showed only 11.08% wrong answers.

**Discussion and Conclusions:** In general, satisfactory knowledge about HPV was observed, with most individuals achieving final scores between 51% and 75%. We can conclude that the general knowledge is good. However, there is still wrong information and some lack of knowledge mostly about prevention and symptoms.

**Take-home Messages:** Portuguese Biomedical Sciences students have satisfactory levels of knowledge about HPV. It is important to strengthen matters concerning HPV prevention and symptoms.

## #411 Posters - Curriculum Subjects 2

### 41110 (989)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Innovative pre-clinical infectious diseases course in English in Japan

#### AUTHOR(S):

- Harumi Gomi, International University of Health and Welfare, Japan (Presenter)
- Kazi Selim Anwar, International University of Health and Welfare, Japan
- Harque Khandakar, International University of Health and Welfare, Japan
- Shiro Endo, International University of Health and Welfare, Japan
- Yasuyuki Kato, International University of Health and Welfare, Japan
- Tetsuya Matsumoto, International University of Health and Welfare, Japan

#### ABSTRACT

**Background:** The subspecialty of infectious diseases has been under development in Japan. There are still few clinical infectious diseases specialists in Japan. Given this fact, historically, segmental microbiology courses such as bacteriology, virology, or parasitology have been taught by basic microbiologists as part of pre-clinical subjects in Japan. Our international medical university was founded strategically two years ago to provide integrated curriculum in English in Japan for the first time. This study is to describe how our pre-clinical integrated infectious diseases course was provided in 2018 for the second-year medical students.

**Summary of Work:** Full time faculty members with expertise in infectious diseases were in the teaching group of the course in 2018. The expertise included basic microbiology, clinical infectious diseases, infection control, tropical medicine including management of Ebola virus, and global health. This comprehensive infectious disease expert group had multiple meetings before, during, and after the course to design, adjust, and improve the course.

**Summary of Results:** A total of 140 second-year students took this course. The course consisted of 45-hour sessions within two weeks. The sessions included 30-hour didactic interactive lectures and 15-hour practical microbiology or simulation center exercise. Each session was evaluated by the students online as part of the routine class survey. Among the students who gave feedback, this course was highly appreciated.

**Discussion and Conclusions:** To understand the needs among the students and faculty members is challenging. The student online survey and discussions among the faculty members before, during and after the sessions seemed very effective to adjust the content and the depth of the course.

**Take-home Messages:** Comprehensive integrated infectious diseases course has been successfully provided in English in Japan. This model can be utilized in other institutions to integrate basic microbiology, clinical infectious diseases, infection control, and public health.

## #4II Posters - Curriculum Subjects 2

### 4II11 (1093)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Three-step kidney ultrasound course for medical students: a pilot study

#### AUTHOR(S):

- Chih-Chin Kao, Taipei Medical University Hospital, Taiwan (Presenter)
- Shu-Ching Yeh, Taipei Medical University Hospital, Taiwan
- Yi-No Kang, Taipei Medical University Hospital, Taiwan
- Jeng-Cheng Wu, Taipei Medical University Hospital, Taiwan
- Chien-Yu Chen, Taipei Medical University Hospital, Taiwan
- Chun-Chao Chang, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Ultrasound is an easy-accessible and important diagnostic tool in clinical practice. However, the medical students had little chances to perform it. We conducted a three-step course of kidney ultrasound and designed an evaluation protocols to explore the performance skills of students.

**Summary of Work:** There were 44 medical students participated in a three-step course of kidney ultrasound in this study. First step is remote learning by the on-line videos for ultrasound introduction. Second step is basic kidney ultrasound exercise on the colleagues. Third step is direct operating in the clinical patients. We measured the relevant outcomes of basic operating performance and kidney ultrasound operating performance. A visiting staff tested students' performance skills with structured checklist, which was a three-point observational scale with ten observational items. According to the scale, the study used value 1, 2 and 3 to represent poor performance, fair performance, and good performance respectively. One-sample t-test served qualification of learning performance of kidney ultrasound with threshold value 2. Generalized linear model (GLM) with multiple comparisons served the analysis of learning diagnosis.

**Summary of Results:** In the overall performance, students' performances in kidney ultrasound ( $2.24 \pm 0.37$ ,  $p < .001$ ) were well. However, the results of GLM analysis showed that performance of detector position and direction were better than image adjustment and body mark usage ( $p < .001$ ). Regarding kidney evaluation, the kidney size measurement was performed better than other items (kidney chronicity evaluation, stone / cyst evaluation,  $p < .001$ ).

**Discussion and Conclusions:** This three-step kidney ultrasound course help students familiar with this diagnostic skills. It may be an effective approach in teaching kidney ultrasound skills to medical students. Nevertheless, the course should be modified according to this learning diagnosis analysis. We reinforced ultrasound performance skills (including body mark usage, kidney chronicity evaluation, or stone / cyst evaluation) by the on-line videos.

**Take-home Messages:** This three-step kidney ultrasound course improved medical student kidney ultrasound performance. Several aspects of ultrasound techniques need to be reinforced.

## #4II Posters - Curriculum Subjects 2

### 4II12 (410)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Application of point-of-care ultrasound (POCUS) in clinical care for medical students and post-graduate year residents

#### AUTHOR(S):

- Wang-Huei Sheng, National Taiwan University Hospital, Taiwan (Presenter)
- Nin-Chieh Hsu, National Taiwan University Hospital, Taiwan
- Chih-Wei Yang, National Taiwan University Hospital, Taiwan
- Hung-Bin Tsai, National Taiwan University Hospital, Taiwan
- Shan-Chwen Chang, National Taiwan University College of Medicine, Taiwan

#### ABSTRACT

**Background:** Point-of-care ultrasound (POCUS) has become a ubiquitous tool in clinical care. We established a standardized POCUS educational program for under-graduate senior medical students and post-graduate year (PGY) residents to identify and evaluate the competency, improvement and feedback from trainees after participating the program.

**Summary of Work:** A 14-month longitudinal standardized POCUS educational curriculum was conducted from Sep 2017 to Nov 2018. We organized five hands-on individual fields of teaching sessions (cardiac, abdomen, lung, musculoskeletal and protocols). The whole training program was designed to be completed in a monthly rotation. Quality assurance and feedback were performed after each session by an on-line survey scored from 1 (the lowest) to 10 (the highest).

**Summary of Results:** Compared to medical students, PGY residents scored significantly higher baseline competency on both knowledge and skills of ultrasonography (5.9 vs. 3.1,  $p=0.001$  and 6.6 vs. 3.1,  $p=0.006$ , respectively), and significant higher in all five individual fields. Medical students scored significant higher self-rated improvement of overall knowledge and skill after curriculum (2.9 vs. 0.7,  $p=0.002$  and 2.7 vs. 0.4,  $p=0.030$ , respectively). The lung session resulted in the highest scored skill improvement for PGY residents. PGY resident scored significant higher for the usefulness in clinical care as compared to medical students (9.4 vs. 7.8,  $p=0.027$ ).

**Discussion and Conclusions:** A longitudinal POCUS educational curriculum is effective to improve competency of ultrasonography for both medical students and PGY residents. While medical students perceived more significant improvement in knowledge and skills in using ultrasonography, PGY residents perceived higher usefulness in assisting their clinical care. The lung session resulted in the highest scored skill improvement for PGY residents. POCUS instructors may need to adjust the learning objective for different population.

**Take-home Messages:** POCUS education enhances both medical students' and PGY residents' knowledge and skills of ultrasonography. POCUS is perceived more useful in clinical care for residents compared to medical students.



## #4JJ - Posters - Selection

### 4JJ01 (327)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What Are You Looking At? Ensuring That Admissions Tests and Desired Constructs Align

#### AUTHOR(S):

- Darryl Kraemer, Altus Assessments, Canada (Presenter)
- Christopher Zou, Altus Assessments, Canada
- Harold Reiter, McMaster University, Canada

#### ABSTRACT

**Background:** The emergence of situational judgment tests (SJTs) from human resource literature has tied the development of these selection tests to job performance and the job context, rather than as general constructs. In their literature review, Christian et al. noted advantages of using general constructs instead - improved predictive validity and more meaningful score comparison with other selection methods. In this study, the second advantage is examined by subjecting a general construct-developed SJT used in medical admissions to data analyses comparing it to well-established and validated tests of medical student selection.

**Summary of Work:** We collected the various admission metrics gathered by New York Medical College in 2015 - grade point average (GPA), old Medical College Admissions Test (MCAT) including all section sub-scores, new MCAT 2015 including all section sub-scores - in addition to an online video-stem construct-developed SJT (CASPer). Pearson correlations were derived among all scores, and a Principal Components Analysis (PCA) using varimax rotation with Kaiser normalization on the correlation matrices.

**Summary of Results:** 9,096 students completed secondary applications, of which 1,656 came to MMI. Both Pearson correlations and PCA pointed to similar conclusions - Tests designed primarily as cognitive assessments (GPA, science subsections of MCAT) and those designed primarily as personal competency assessments (MMI, CASPer) clustered as two separate groups. Tests designed as reflections of composite cognitive and personal competencies (verbal and behavioural science subsection of MCAT) straddled the two groups.

**Discussion and Conclusions:** The results of this study lend further validity evidence to the tools that are used in the admissions process. When introducing new selection measures, programs should consider data analyses akin to that described in this study, to ensure that the constructs being measured are well defined and that those constructs align with institutional mission statements.

**Take-home Messages:** The various admission tools used in the current selection process assess two general constructs: cognitive competencies and non-cognitive competencies.

## #4JJ - Posters - Selection

### 4JJ02 (2131)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Building Regional Campuses: Considerations Regarding Development of Admissions and Recruiting Practices

#### AUTHOR(S):

- Carol Elam, University of Kentucky College of Medicine, USA (Presenter)

#### ABSTRACT

**Background:** Medical schools across the world are expanding the numbers of graduates they produce by opening regional campuses. This work describes our approach to developing recruitment and admissions procedures at three regional campuses of the University of Kentucky College of Medicine (UKCOM).

**Summary of Work:** Mindful of our experience building a two-year clinical campus in 2008, we embarked on opening two four-year regional campuses, with a total enrollment of 65 students, starting in 2016, by 2019. As with other aspects of planning a regional campus, devising admissions practices involves demonstrating leadership, developing partnerships, building support, understanding the potential demand, adapting policies and procedures, adhering to accreditation requirements, developing staff and faculty training, and creating marketing and communications plans.

**Summary of Results:** Meeting regularly with local admissions working groups comprised of leaders from the established medical school, regional medical campus, affiliated regional undergraduate university, Area Health Education Center, and local medical center, we examined ten-year applicant and matriculant pools from regional universities and liberal arts colleges, and from all counties in each region. Based on that review, we developed the following recruitment initiatives: 1) Caring for the Commonwealth Initiative inviting community and higher education leadership to the regional campus; 2) Community Open Houses and outreach to area high schools and colleges targeting prospective students and parents; 3) Early Assurance contracts with the regional universities and colleges providing assured admission for selected students; 4) special educational opportunities unique to each regional campus; 5) local scholarship support, and 6) print and web-based promotional materials. Particular admissions procedures including screening, invitation for interview, selection and interviewer and admissions staff training follow UKCOM procedures and accreditation guidelines.

**Discussion and Conclusions:** Recognizing that environments and needs may change after initial admissions plans are made, we built a regular monitoring and feedback system regarding recruitment and admissions initiatives, and put programs, such as Early Assurance, in place for three-year cycles, subject to review. Working with local partners in each regional setting created a sense of shared investment in goals, activities, and outcomes.

**Take-home Messages:** Designing new recruitment initiatives locally builds trust in adopting established admissions procedures.

## #4JJ - Posters - Selection

### 4JJ03 (1657)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Approximation to vulnerable students' academic trajectories: between background effects and personal merits potential

#### AUTHOR(S):

- **Natalia Harden Diaz, Universidad de Chile, Chile (Presenter)**
- Javiera Esturillo Pinet, Universidad de Chile, Chile
- Valentina Flores Castro, Universidad de Chile, Chile
- Diego Pacheco Sandoval, Universidad de Chile, Chile
- Sandra Flores Alvarado, Universidad de Chile, Chile
- José Peralta Camposano, Universidad de Chile, Chile

#### ABSTRACT

**Background:** There exists, at a worldwide level, an increase regarding access to higher education by new social sectors; however, these new students show less academic performance, associated to their socioeconomic condition. Admission to higher education doesn't settle the inclusion problem, rather demanding attention to the student's educational process.

**Summary of Work:** This study's purpose was to determine if there exist different academic trajectories, measured by performance, between regular and socioeconomic prioritized admissions, identifying whether this difference can be explained by academic merits, the student's vulnerability condition, or a combination of both. This was addressed by modeling both the half-year term GPA and the half-year term approval rate through mixed linear models over the total of students that entered the Universidad de Chile's Medicine Faculty between the years of 2013 and 2018.

**Summary of Results:** The results show a gap in the academic trajectory according to the admission way, evidencing its effect on performance. This is, however, independent from the remaining used variables, such as sex, score at the national admission test and high school's ranking obtained score.

**Discussion and Conclusions:** Considering the utilized academic and demographic variables, the results concur with literature, except at the prediction granted by high school's performances. Finally, we suggest that the performance gap between different groups might be explained by the higher vulnerability of those students that are admitted via equity prioritized ways.

**Take-home Messages:** The developed study emphasizes the need to pay attention to how university policies should be oriented to reduce the existing gaps between different groups of students, not only in their entry to higher education, but also in their persistence and graduation. Taking into account all those elements, it is possible to advance forward to greater educational equity.

## #4JJ - Posters - Selection

### 4JJ04 (2702)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Socio-demographic variables in Brazilian new-entrant medical students

#### AUTHOR(S):

- **Renata Kobayasi, School of Medicine of University of Sao Paulo, Brazil (Presenter)**
- Guilherme Keichi Nakandakare, School of Medicine of University of Sao Paulo, Brazil
- Paulo Roberto Palma Urushima, School of Medicine of University of Sao Paulo, Brazil
- Fernanda Magalhaes Arantes-Costa, School of Medicine of University of Sao Paulo, Brazil
- Milton Arruda Martins, School of Medicine of University of Sao Paulo, Brazil
- Vitor Mendonça, School of Medicine of University of Sao Paulo, Brazil

#### ABSTRACT

**Background:** Medical students suffer from high rates of anxiety and depression. In recent years there has been an increasing focus on the need to improve support and treatment services for those in difficulty. Knowing student characteristics makes it easy to offer the support needed for adaptation to the challenging years of medical education.

**Summary of Work:** We aimed to assess the characteristics of 175 new-entrant medical students enrolled at University of SAo Paulo, Brazil in a cross-sectional study, with a sixty-question self-reported questionnaire, comprising socio-economics information, study habits, use of stimulant substances, family support or demands.

**Summary of Results:** Response rate was 49.1%. Mean age of students was 18.9 years, 32.9% were female. There was a prevalence of Whites and Asians (89.6%) and low participation of Blacks (10.4%). Sixty-two percent of the students came from private schools during high-school. Students' mean hours' class on was seven hours and extra-class study period was five to six hours. Seventy-four percent of students regularly used stimulants, especially caffeine to maintain routine study. Only thirty-six percent of the students kept practicing physical activities during the year of preparation for medical school, and the majority (63.5%) indicate lack of time for leisure to practice sports. Students pointed out material and psychological support by the family, and denied excessive pressures and family charges.

**Discussion and Conclusions:** We still have male predominance in our medical school, in spite of the higher participation of women in medicine. Our data also highlight a higher proportion of whites and students from private high-schools in spite of the selection policies to promote equitable and fair access for all candidates.

**Take-home Messages:** New-entrant medical students in our institution were in the majority male and white. Time devoted to the studies during weekday ranged from 11.4 hours to 12.4 hours per day. Although they had heavy study routine they pointed out family psychological and material support without excessive pressures and charges.

## #4JJ - Posters - Selection

### 4JJ05 (3420)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Relationship Between Undergraduate Teaching Settings, Graduate Outcomes, and Foundation Programme Allocation - A Single Centre Study

#### AUTHOR(S):

- Hassan Baig, University of Aberdeen, UK (Presenter)
- Ioannis Georgiou, University of Aberdeen, UK
- Qaisar Khan, University of Aberdeen, UK
- Usman Rasul, University of Aberdeen, UK

#### ABSTRACT

**Background:** Currently, British standards of medical education have set high expectations at an international level. The University of Aberdeen (UoA) is one of the highest-ranking universities for medical education in the UK. The Situational Judgement Test (SJT) is an exam focused on team-work, leadership and patient-centred care, for which communicative and real-life exposure is paramount. The Educational Performance Measure (EPM) is a scale which creates an academic profile for each student, based primarily on a combination of the grades achieved throughout the academic years. This research analysed the relationship between the hours spent within different clinical teaching settings and the SJT results of graduates, demonstrating what the 'integrated' style of delivering medical education has achieved.

**Summary of Work:** The total number of hours allocated for the teaching of clinical skills were coded for the academic year 2015/2016. Data allocation was based on the year of study and the clinical setting in which the students were taught. Three parameters were identified for the teaching of clinical skills; Communication (C), Practical (P) and Ward-based (W).

**Summary of Results:** The cumulative number of hours spent teaching clinical skills over the five years was 3,353.8 (C: 25.8, P:68, W:3160). Stratification based on year of study showed the following hours were spent in each clinical setting: Year 1 (C:42, P:9, W:9), Year 2 (C:15.5, P:36.5, W:46), Year 3 (C:20.3, P:22.5, W:41), Year 4 (C:0, P:0, W:1792) and Year 5 (C:48, P:0, W:1272).

**Discussion and Conclusions:** The analysis of the UoA 'integrated' teaching technique reveals that an increased delivery of teaching hours within wards has resulted in a combined SJT and EPM of 78.76, which is insignificantly below the national average of 80.31. Additionally, the average SJT score alone was 39.06; below the national average of 39.59. However, 85.06% of graduates were allocated to their first choice of foundation school surpassing the national average of 78.56%.

**Take-home Messages:** Emphasis on clinical skills is likely to affect the SJT performance, due to the nature of the test, and subsequently improve the percentage achieving first choice of foundation school allocation. However, continued research is required via a multi-centre comparative approach to further this hypothesis.



## #4JJ - Posters - Selection

### 4JJ06 (2855)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

## The Impact of Prior Qualifications on Academic and Clinical Performance

### AUTHOR(S):

- **Zaniel Zahra, University of Plymouth, UK (Presenter)**
- Louise Belfield, University of Plymouth, UK
- Clare McIlwaine, University of Plymouth, UK

### ABSTRACT

**Background:** Dentists (BDS) and Dental Therapist-Hygienists (DTH) are two distinct dental professions, with overlapping scope of practice. At Peninsula Dental School (UK), BDS and DTH students are taught on a unique, inter-professional programme. Where scope of practice is shared, clinical and academic standards are identical, so students from both programmes share all teaching, learning, clinical activities, and assessments, however, prior qualifications required for entry to BDS and DTH differ in content and grade. Therefore, it is important to ensure that students are not disadvantaged by difference in entry requirements, that entry requirements are appropriate, and that support is equitable for students from all backgrounds. The current work explores the relationships between prior qualifications and attainment across clinical- and knowledge-based assessments.

**Summary of Work:** Data was collated from all first-year DTH clinical- and knowledge-based assessments, along with demographic data including highest level of prior qualification, covering the 2014-15 to 2017-18 academic years. Assessment scores were converted to standardised Z-scores making all scores relative to average DTH student performance. Students from the most recent academic year were also asked to provide feedback via questionnaires and focus groups on recently incorporated tailored sessions and pre-enrolment online materials as additional preparation for the programme.

**Summary of Results:** Comparison of performance between students holding different prior qualifications revealed significant differences in knowledge-based assessments but little difference in clinically-focused assessments. These differences suggest those holding BSc (Hons) degrees, A-levels, or Access course qualifications out-performing those holding vocational qualifications.

**Discussion and Conclusions:** These findings suggest that some variability in first-year performance may be due to prior qualifications. This highlights the need to provide effective support for students re-entering education or beginning a programme of study with clinically-focused prior qualifications. These may take the form of pre-enrolment online materials or tailored sessions early in the programme.

**Take-home Messages:** Variability in first-year performance may be due to prior qualifications, highlighting the need to provide effective student support, and pre-enrolment online materials are one effective means of achieving this.

## #4JJ - Posters - Selection

### 4JJ07 (3411)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

**Do graduate entry medical students with non-science backgrounds have a greater tolerance of ambiguity during the transition to clinical placements compared to those with a science degree?**

#### AUTHOR(S):

- Jack Mowatt, Warwick Medical School, UK (Presenter)
- Louise Davis, Warwick Medical School, UK

#### ABSTRACT

**Background:** There is good evidence that the arts may help to improve tolerance of ambiguity. Tolerance of ambiguity is important for any healthcare professional and this extends to medical students. There is a lack of research comparing tolerance of ambiguity in the clinical phase between science and non-science graduates studying graduate entry medicine (GEM); therefore this study aims to determine whether those with a non-science background have a greater tolerance of ambiguity in the clinical phase than science graduates at Warwick Medical School, a UK graduate entry medical school.

**Summary of Work:** Using a mixed methods approach, a questionnaire was designed combining the TAMSAD (Tolerance of Ambiguity in Medical Students and Doctors) scale and background questions. This was emailed to 328 phase 3 medical students at The University of Warwick. Statistical analysis was used to compare any differences between non-science and science respondents and, in addition, descriptive analysis was conducted on the background information provided by participants. The students were also invited to participate in a semi-structured focus group and the data was analysed using thematic analysis.

**Summary of Results:** 60 responses were analysed with a science:non-science ratio of 2:1. Although the Mann-Whitney-U test showed no significant difference between the two samples, analysis showed non-science students were more likely to have had previous paid healthcare experiences and a gap between their first degree and starting GEM; this was theorised to have contributed to a higher percentage of non-science students feeling more confident before and a month after starting the clinical phase. Six students participated in the focus group (non-science:science ratio 4:2) and six themes were identified. Data from some of the themes suggested that non-science students had a greater skill set to mitigate uncertainty due to previous experiences.

**Discussion and Conclusions:** Descriptive and qualitative data suggests that non-science students had more experiences to draw upon to increase their tolerance of ambiguity. This was due to non-science students having a greater period of time between their first degree and starting GEM. Non-science students were older and more mature in their approach to uncertainty.

**Take-home Messages:** Non-science students had more experiences to draw upon to increase their tolerance of ambiguity.

## #4JJ - Posters - Selection

### 4JJ08 (3393)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Association between entrance marks, academic performance and the National Medical Exam

#### AUTHOR(S):

- Ricardo Afonso, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal (Presenter)
- Ana Marreiros, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal
- Isabel Palmeirim, Department of Biomedical Sciences and Medicine, University of Algarve / Algarve Biomedical Center, Portugal
- António Pêgas, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal
- Sandra Silva, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal
- Sofia Nunes, Department of Biomedical Sciences and Medicine, University of Algarve, Portugal

#### ABSTRACT

**Background:** The Integrated Master of Medicine of the University of Algarve (MIM-UAAlg) is 4 year medical degree that enrolls graduate students exclusively with an integrated PBL based curriculum. Student's selection process consists: 1st phase - a set of cognitive skills tests and a proof of English language knowledge and 2nd phase - a set of 10 multi mini-interviews. The assessment system has the following components: knowledge assessed using Progress Testing (the Personal Progress Index (PPI) developed by McMaster University); practical skills assessed using Objective Structured Clinical Examinations (OSCE's); clinical tutors in Primary Care and Hospital context assess professionalism, communication and clinical reasoning.

**Summary of Work:** The aim of this study was to evaluate if there is any association between entrance examination marks, academic achievement and the results of the National Medical Exam (NME). Data were analyzed with SPSS. Descriptive analysis were performed for univariate approach and complemented with a multivariate classification analysis - considering the NME as the dependent variable. 5 cohorts, from 2009 to 2013, in a total of 161 students were considered for this study.

**Summary of Results:** A multivariate classification approach applied for all variables showed that the first variable with the greater differentiating power in the NME was Clinical Practice 3 (CLI 3). With a cut-off point of 17 values we verified that OSCES 4 and the final PPI of the 3rd year are important in the NME outcome. Considering exclusively the variables of entrance marks, academic performance and the NME, it was verified that it is possible to differentiate the results of the NME by stratified average of the academic performance. In addition, it was found that there was a significant association between the 4 intervals of the final mean of the course and the mean scores of the cognitive tests ( $p = 0.000 < 0.05$ -Kruskal Wallis).

**Discussion and Conclusions:** We concluded that the "latent dimensions", the cognitive scores and the final mean, were effectively related to the NME. However, analyzing each assessment moments there are other important predictors like CLI 3, OSCES 4 and PPI 3\_3.

**Take-home Messages:** Results of National Medical Exam of UAAlg medical graduates can be anticipated from student selection process and academic achievements.

## #4JJ - Posters - Selection

### 4JJ09 (2354)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Influence of “Wanna Be a Doctor Camp” on Thai High School Students’ Decision to Study Medicine

#### AUTHOR(S):

- **Anawin Anomasiri, Chiang Mai University, Thailand (Presenter)**
- Komson Wannasai, Chiang Mai University, Thailand
- Kriengkrai Srithanaviboonchai, Chiang Mai University, Thailand
- Manussabhorn Phatsara, Chiang Mai University, Thailand
- Volaluck Supajatura, Chiang Mai University, Thailand

#### ABSTRACT

**Background:** Many factors influence Thai high school students’ study decision at higher education, especially in Medicine. In Chiang Mai, “Wanna Be a Doctor Camp” have been held annually for many years to provide information about medical education for high school participants and to improve their decision making on higher study.

**Summary of Work:** This study aims to assess the influence of the Wanna Be a Doctor Camp among high school participants by inquiring their understanding about medical education and their decision to study medicine. Questionnaires were sent to participants (n = 200) of the camps organized during 2014-2016. The information collected include: year participated, age and education during the camp attendance, present education, willingness to study medicine before and after the camp (yes or no), levels of willingness to study medicine and understanding in medical education before and after the camp (both were rated from 1-10). Data were analyzed using descriptive statistics, Chi-square and paired-samples T tests at < 0.05.

**Summary of Results:** Eighty-five participants (44%) completed the questionnaires. The proportion of respondents who were willing to study medicine increased from 77.6% to 84.7% (p = 0.18) after attending the camp. The level of willingness to study medicine and that of understanding in medical education increased from 6.9 to 7.9 (p < 0.01) and 5.7 to 8.2 (p < 0.01), respectively.

**Discussion and Conclusions:** The levels of both willingness to study medicine and understanding in medical education are significantly increased via participation of high school students in the Wanna Be a Doctor camp. The camp did not significantly change the participants’ decision in higher education since most of the respondents remained their willingness to study medicine after the camp participation. However, non-response bias might have introduced due to moderate response rate so the results should be interpreted with care.

**Take-home Messages:** Information about medical education and related issues should be provided to high school students who would like to pursue medical education beforehand to assure that they execute informed decision.

## #4JJ - Posters - Selection

### 4JJ10 (807)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Multiple Mini-Interviews in Medical Student Selection

#### AUTHOR(S):

- Anant Khositseth, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand (Presenter)
- Somnuek Sungkanuparph, Faculty of Medicine Ramathibodi Hospital, Mahidol University
- Pongsak Khowsathit, Faculty of Medicine Ramathibodi Hospital, Mahidol University
- Orapan Charoonchay, Faculty of Medicine Ramathibodi Hospital, Mahidol University

#### ABSTRACT

**Background:** Multiple mini-interviews (MMIs) has been widely used for medical student selection. We generally recruited candidates relied on higher score in examination. Alternatively, another track using portfolio and MMIs was developed. This study was to determine the process of MMIs.

**Summary of Work:** One-hundred students (regular schools) and 53 (international schools) applied the program. Using portfolio (personal statement and past experiences) scoring by 7 independent reviewers. Studying in the international schools was significantly correlated with selection (OR 3.288 [95% CI, 1.643-6.581], p=0.001. Forty-five candidates enrolled in MMIs including psychiatric screening and portfolio verification (no scoring) and 8 stations including station (1) service orientation, (2) social skills, (3) teamwork&leaderships, (4) capacity for improvement, (5) self-awareness, (6) handling stress, (7) ethics, and (8) communication, Each station (8-minute) has two interviewers/observers independently scoring for each candidate (scale A, B, C, D, F).

**Summary of Results:** Kappa analysis (K) demonstrated poor agreement in station (1) to (5) (K -0.01 to K 0.17); fair agreement in station (6) and (7) (K 0.33, K 0.39); and moderate agreement in station (8) (K 0.47). Since the score mark was transformed to continuous variables scaling from 0 to 4, Kendalls coefficient of concordance (W) demonstrated good agreement in station (5), (7), and (8) (W 0.5878, 0.5688, 0.6398); fair agreement in station (4) and (6) (W 0.2964, 0.2789); and poor agreement in station (1) to (3) (W 0.275, 0.2349, 0.025). Twenty-eight candidates selected by MMIs had significantly higher proportion of students studying in the international schools but not related to the higher score from portfolio. The scores from all stations except station (4) and (7) significantly predicted selection by MMIs. Station (5) was the strongest predicting factor for selection by MMIs, followed by station (1), (2), and (3).

**Discussion and Conclusions:** There were variation in scoring between 2 observers. Self-awareness was the strongest predictor for the selection. There was no correlation between portfolio rating and MMIs scoring.

**Take-home Messages:** Two observers in MMIs station tend to be better than single observer. We propose using both portfolio and MMIs in the final process of medical student selection.



## #4JJ - Posters - Selection

### 4JJ11 (1134)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Does multiple mini-interview pick medical students different from those admitted by written examination?

#### AUTHOR(S):

- Chyi-Her Lin, Department of Pediatrics, E-Da Hospital, I-Shou University, Taiwan (Presenter)
- Mei-Hua Chen, Department of Pediatrics, National Cheng Kung University Hospital, National Cheng Kung University, Taiwan
- Charity TC Tsai, Department of Medical Humanities and Education, Kaohsiung Medical University, Taiwan
- Williams J Huang, Department & Institute of Physiology, National Yang-Ming University, Taiwan

#### ABSTRACT

**Background:** Multiple mini-interview (MMI) has been adopted by many medical schools in selecting medical students. It is a tool to screening applicants' non-cognitive traits. Whether medical students picked by MMI are different from those by other tools are unclear. This study was to compare the characteristics of medical students admitted to the same schools by MMI or written examination (WE).

**Summary of Work:** We enrolled the first year medical students of 7 medical schools who were selected by either MMI or WE in Taiwan. Exclusion criteria: students enrolled with college or higher degrees or by other special channels. A semi-structured questionnaire was designed with content including: admitted to medical school by MMI or WE tools, gender, location (urban or rural) and ownership (public or private) of high schools, parents' socioeconomic status (SES), motivation of studying medicine and approach of learning (motive and strategy, deep vs surface). The questionnaire was distributed to medical students participated freely. We compared the differences in characteristics of medical students admitted either by MMI or WE.

**Summary of Results:** A total of 543 medical students were surveyed and 513 of them responded, but only 493 (90.8%) of questionnaires were valid for study; 103 were excluded and finally 390 respondents were analyzed (205 students in MMI and 185 students in WE groups). Compared to WE, MMI selected medical students of more female (29% vs 48%,  $p < .01$ ), more from private high schools (14% vs 28%,  $p < .01$ ), and higher scores of learning with surface motive (3.96 vs 4.24,  $p < .01$ ). There were no differences in location of high schools, parents' SES and motivation of studying medicine between the two groups.

**Discussion and Conclusions:** MMI selected higher proportion of female medical students, graduates of private high schools and students learnt with surface motive than by WE. Its impact on their school performance and career choices after graduation warrant further follow up.

**Take-home Messages:** MMI picks medical students with different characteristics from those by WE.

## #4JJ - Posters - Selection

### 4JJ12 (2040)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Modified Multiple Mini Interview for Suranaree University of Technology Talented Scholar Selection

#### AUTHOR(S):

- Piya-on Numpaisal, Institute of Medicine, Suranaree University of Technology, Thailand (Presenter)
- Nantana Sirisup, Thailand
- Jennene Greenhill, Flinders Rural Health South Australia, South Australia

#### ABSTRACT

**Background:** Suranaree University of Technology (SUT) desired to grant 94 full scholarships for talented students who had remarkable cognitive and non-cognitive competency. Academic performance could present cognitive ability but non-cognitive intelligence needs more sophisticated tool. SUT student core properties; communication skill, problem solving skill, language proficiency (Thai and English) and ethical awareness, were considered as the requirement for our talented students. To assess these skills, multiple mini interview (MMI) was proposed.

**Summary of Work:** SUT talented scholars were offered to all institutes; Science, Engineer, Management, Agriculture, Medicine, Public Health and Nursing. To mutualize this selection, MMI questions were modified by applying group activity, hand on task, reading and writing in MMI stations. Station 1, group activity was assigned for 6 candidates, communication and interpersonal skills were observed by the raters. Problem solving skill were evaluated by questions from given scenario in station 2 and hand on task in station 5. Station 3, candidates had to express their point of view on a dilemma situation. Station 4, a 500-word Thai article was given, candidates had to give title, main idea in Thai and argumentative statement in English. Total scores were calculated and weighted according to institutional criteria for the candidate ranking. After Modified MMI (MoMMI), the candidates and raters were asked to complete the questionnaire voluntarily without any identification. The satisfaction and perception were analyzed.

**Summary of Results:** 154 candidates and 75 raters participated in MoMMI, 149 and 65 responded to the questionnaire. 87.9% and 89.3% of candidate though MoMMI was fair and could reflect their potential, 75.9% agreed that MoMMI was suitable for the selection. 75% and 76.6% of raters accepted for fairness and transparency. 71.8% perceived that MoMMI was reliable and 60.3% though it was cost-effective for high stake-student selection.

**Discussion and Conclusions:** MoMMI using multiple activities could assess various non-cognitive intelligence and can be used for professional diversity student selection. For medical student, MoMMI could present variety of skill such as interpersonal and hand skills which mandatory for our professional.

**Take-home Messages:** MoMMI offers more variety and diversity of non-cognitive ability assessment which is preferable for current medical student selection.

## #4JJ - Posters - Selection

### 4JJ13 (1902)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Screening for situational judgement: utilising an online video-based SJT for medical student selection in Australia

#### AUTHOR(S):

- Lyndal Parker-Newlyn, University of Wollongong, Australia (Presenter)
- Kylie Mansfield, University of Wollongong, Australia
- Kelly Dore, McMaster University, Canada

#### ABSTRACT

**Background:** A key challenge for medical schools worldwide is identifying appropriate tools to select students ideally suited for medical practice from a competitive applicant pool. Situational Judgement Tests (SJT) are one such tool, designed as an ability measure of emotional management and predicting future professional behaviour. CASPer is a video-based online SJT developed by McMaster University and widely used in Canada. We aimed to determine validity evidence for CASPer in Australian medical student selection.

**Summary of Work:** University of Wollongong (UOW) delivers a 4-year graduate entry medical program with a focus on producing Australian doctors with a desire to practice medicine in rural areas. UOW medical student selection algorithm includes GPA, GAMSAT, extracurricular portfolio and MMI interview. Scores are added for rural background/education. In May 2018 UOW undertook a pilot administering an Australian specific CASPer to MD applicants (n=1,548). Resulting scores were correlated with other selection measures and demographics.

**Summary of Results:** Significant correlation exists between CASPer and MMI ( $R=0.38, p<0.0001$ ) particularly in applicants with a CASPer score  $<1$  SD below mean. At MMI these applicants were more likely to score poorly and/or receive a “red flag” for concerning behaviour. Weaker correlations exist between CASPer and admissions portfolio ( $R=0.19, p<0.0001$ ) and GAMSAT score ( $R=0.23, p<0.0001$ ); particularly sections humanities and writing sections of GAMSAT. Minimal correlation exists between CASPer and GPA, age, gender, and rurality. The test was widely accepted by applicants with 86% indicating that they were satisfied, very satisfied or extremely satisfied with the CASPer test experience.

**Discussion and Conclusions:** This study is the first widespread use of online SJT for medical selection in Australia. It demonstrated less gender bias than existing selection measures, and no bias against rural applicants. CASPer screened effectively for MMI score and demonstrated sensitivity in identifying applicants who display concerning behaviours at interview. Further research aims to establish the role of CASPer in assessing in-course situational judgement, along with analysis of influence of educational discipline and demographics.

**Take-home Messages:** • SJTs offer an opportunity to pre-screen medical school applicants based on personal qualities. • CASPer SJT in Australia proved to be an acceptable, reliable test with good predictive validity for interview performance and little bias.

## #4JJ - Posters - Selection

### 4JJ14 (1499)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A qualitative analysis of the Portuguese National Seriation Exams for access to residency programs

#### AUTHOR(S):

- Rui Jorge Silva, Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Portugal (Presenter)
- José Miguel Pêgo, Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Portugal

#### ABSTRACT

**Background:** In Portugal, up to 2018, access to medical residency programs was achieved by a public tender, whose selection method is a Knowledge Test designated the National Seriation Exam. This exam was criticized by medical students, graduates and clinicians, because it was based on the recall of medical factoids. In 2019, a new National Access Exam is being implemented, which mostly focuses on application of knowledge and the test of reasoning and clinical thinking of presented clinical problems.

**Summary of Work:** In this study, we performed a qualitative analysis of 10 National Seriation Exams (2009-18; 1000 items), to evaluate and identify the most common item flaws, according to NBME® Gold Book and the study by Rush (2016), and understand the basis of the criticism of the former exam.

**Summary of Results:** Our data shows that almost all items were based on the recall of medical factoids and a considerable number had at least one flaw. Three of the most prevalent item flaws were the use of negative stems, unfocused questions and the presence of vague or generalizing terms. Conversely, use of “all of the above”, use of “none of the above” and use of complex or k-type questions were among the least found item flaws.

**Discussion and Conclusions:** Concluding, a very significant number of items on the former exam had errors, which presents a problem in the process of seriation of the graduates. This study creates a basis of comparison to the new exam, allowing future studies in this area and the direct comparison of the exams with the considered methods.

**Take-home Messages:** The former Portuguese National Seriation Exam was characterized by items focused on recall of medical factoids and a considerable number of items had at least one flaw. This study allows future comparison of the two models by future studies.

## #4JJ - Posters - Selection

4JJ15 (3336)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Innovative Selection Criteria of Residents for a Specialty Postgraduate Program: Using Multiple Mini Interviews Scenarios to Assess Insight, Reflexivity, and Reception of Feedback

#### AUTHOR(S):

- **Natalie Buu, McGill University, Department of Anesthesia, Canada (Presenter)**
- Carlos Gomez-Garibello, McGill University, Centre for Medical Education, Canada
- Rachel Fisher, McGill University, Department of Anesthesia, Canada
- Catherine Paquet, McGill University, Department of Anesthesia, Canada
- Maryam Wagner, McGill University, Centre for Medical Education, Canada

#### ABSTRACT

**Background:** Selection of residents using multiple mini-interviews (MMIs) allows postgraduate medical programs to identify desirable/concerning traits difficult to discern solely by examination of candidates' application files and traditional interviews. Characteristics identified by our program as important in an ideal candidate was insight, reflexivity, and reception to feedback. In response, we developed two MMI scenarios (MMI+) to assess these skills. These complex scenarios were designed specifically to assess the aforementioned criteria. We evaluated the extent to which the new stations (MMI+) were successful in identifying candidates to the program.

**Summary of Work:** Between 2016 and 2018 a total of 183 candidates were interviewed for admission into the program using the MMI+. Of these interviewees 89 met the program's selection standards; 14 were admitted to the program. The 14 residents were assigned to 3 groups based on their performance on the MMI+ (from highest to lowest). These residents' clinical performance through their residency thus far was also analyzed using a qualitative approach. All comments on the residents' clinical assessment forms (e.g., daily evaluations, summative assessments, EPAs) were analyzed to distinguish learners' performance and identify trends in the criteria of interest (insight, reflexivity, and reception to feedback).

**Summary of Results:** Comparison of the residents' clinical assessments with the highest (HMMI+), middle (MMMI+), and lowest (LMMI+) MMI+ performances revealed that the LMMI+ group were more likely to be resistant to feedback than the HMMI+ group. The MMMI+ group's clinical performance demonstrated that some residents struggled with received feedback (on average), while others in the same group did not.

**Discussion and Conclusions:** Preliminary evidence about the MMI+ suggests that the new scenarios positively contribute to identifying suitable candidates for the residency program. Of the additional three criteria assessed in the MMI+, reception to feedback was found to be most frequently addressed in learners' clinical assessments. This finding could indicate that this criterion is either most relevant to the clinical setting, and/or more easily observable.

**Take-home Messages:** There is evidence to support that an MMI that measures insight, reflexivity and response to feedback can positively contribute to the selection of ideal candidates to a residency program.



## #4JJ - Posters - Selection

### 4JJ16 (2897)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A near-peer mock interview programme to prepare junior doctors for specialty interviews

#### AUTHOR(S):

- James Kent Bramer, Chelsea and Westminster Hospital, UK (Presenter)
- Orhan Orhan, Chelsea and Westminster Hospital NHS Foundation Trust, UK
- Fiona Macauslan, Chelsea and Westminster Hospital NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Specialty interviews are mandatory and anxiety provoking for Junior Doctors hoping to enter medical or surgical training. Competition in London is especially fierce ([imtrecruitment.org.uk](http://imtrecruitment.org.uk), 2019). The benefits of medical student mock interviews and peer-assisted OSCEs have been demonstrated (Young, 2014; Hueston, 2016). A dearth of literature evaluates mock postgraduate interviews. We aimed to identify if mock interviews can improve the confidence of applicants for Integrated Medical Training (IMT) and Core Surgical Training (CST) and, if so, which aspects they perceived most beneficial.

**Summary of Work:** The programme was near-peer led and delivered. Interview questions were based on specialty guidelines and the experience of near-peer specialty interviews. The formal interview format was replicated with three 10 minute stations: 'clinical', 'portfolio' and 'ethics and professionalism & governance' (IMT)/'management and leadership' (CST). Each station had two interviewers (including a medical or surgical trainee) increasing authenticity. Candidates received five minutes feedback after each station. Candidates' confidence was assessed pre- and post-interview using questionnaires (likert scales). Qualitative data was collected on candidates' concerns regarding interviews prior to the session, and any perceived benefits of the mock interview once this was completed. Further evaluation is planned post formal interview.

**Summary of Results:** Nine IMT and four CST candidates were interviewed.

IMT mean interview confidence scores (1-10): - Ethics/professionalism: pre= 4.2, post= 7.6 (increase 81%) - Portfolio: pre= 5.1, post= 7.5 (47%) - Clinical: pre= 5.1, post= 7.6 (46%).

CST mean interview confidence score (1-10): - Management/leadership: pre= 5.5, post= 7.5 (32% increase) - Portfolio: pre= 5.8, post= 8.3 (43%), - Clinical: pre= 6.0, post= 8.0 (33%).

Concerns pre-interview: unfamiliarity with interview format and questions; "blanking" when questioned; answering with confidence; "is my portfolio good enough"?

Perceived benefits: Individual feedback; portfolio review; authentic interview structure; same specialty interviewers.

**Discussion and Conclusions:** We describe a near-peer mock interview programme, which dramatically improved IMT and CST candidates' confidence across all interview stations. The program is likely to be transferable to other settings.

**Take-home Messages:** Mock specialty interviews can increase IMT and CST candidates' confidence for formal interviews. There is scope for their implementation by Postgraduate Departments to prepare Junior Doctors for interviews.

## #4KK - Posters - Communication Skills

### 4KK01 (1295)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Madness or a method? E-learning as one of the methods of teaching communication skills

#### AUTHOR(S):

- Antonina Doroszewska, Medical University of Warsaw, Poland (Presenter)
- Wojciech Oronowicz-Jaskowiak, Medical University of Warsaw, Poland
- Agnieszka Oronowicz-Jaskowiak, Medical University of Warsaw, Poland
- Joanna Michalik, Medical University of Warsaw, Poland

#### ABSTRACT

**Background:** The development of communication skills has become a compulsory element of medical curriculum on an increasing number of Polish medical universities. There are no national guidelines regarding the number and form of the classes. Each university uses a different didactic approach, and the number of hours devoted to communication training varies. On the Medical University of Warsaw, both lectures and practical classes concerning medical communication are conducted. The aim of the online lectures presented on an e-learning platform is to introduce theoretical concepts as well as show exemplary conversations with patients that aim to illustrate how the discussed theories can be applied in practice.

**Summary of Work:** The aim of the poster is to discuss the benefits and limitations of online teaching of communication skills, as well as to present differences in student's perception of the course depending on their field of study.

**Summary of Results:** The students perceive the e-learning course as a good introduction to practical classes. The respondents believed that e-learning was a better option when compared with traditional lectures. The most important advantages of the course, as listed by the respondents, were the possibility to divide the material into small parts, as well as the possibility to take classes at any time and during the weekends. The evaluation of the course differed between students of different fields of study.

**Discussion and Conclusions:** The students usually took the classes on weekends and a few days before the deadline for the final paper. The obtained results show that teaching communication online is not only possible, but also positively evaluated by the students.

**Take-home Messages:** In the Medical University of Warsaw, classes in medical communication are conducted using the blended-learning approach. This method can be of benefit to the didactic process, and is also a practical solution taking into account the limited number of hours devoted to communication skills. Using e-learning platform makes it possible to provide students with more practical exercises during the practical classes, as they are already familiar with theoretical concepts, enables to introduce more interactive elements when compared with lectures, and is more convenient for students than traditional lectures.

## #4KK - Posters - Communication Skills

### 4KK02 (1400)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Doctors as Storytellers: Promoting medical student confidence and storytelling skills through performance training for oral case presentation

#### AUTHOR(S):

- Katherine Stevenson, Severn Postgraduate Medical Education Foundation School, UK (Presenter)
- Hannah Fuller, North Bristol Academy, UK

#### ABSTRACT

**Background:** Oral case presentation (OCP) is the principal mode of communication between doctors to convey the pertinent details of patient cases in a safe and timely fashion. OCP is also often used as means of assessment in both undergraduate and postgraduate examinations. Despite this, educational interventions in the teaching of OCP skills are virtually non-existent. Medical students are typically expected to learn case presentation skills through trial and error, with a recognisable lack of teaching on the underlying structure and linguistic principles required to effectively case present.

**Summary of Work:** Doctors as Storytellers (DaS) was introduced into Bristol University's curriculum in 2018. Forty-nine second year medical students attended an introductory session on the structure, format and style of the OCP and were assessed on their patient presentations using a newly validated mark scheme. They then attended two 1.5-hour sessions co-led by a clinician and actor to develop their confidence, body language and storytelling skills utilising performance training techniques. They were then re-assessed on new patient cases and were surveyed on their experiences of the programme.

**Summary of Results:** Students scoring a 'Good Pass' on 'Confidence' increased by 20.68% ( $p=0.02$ ), 'Overall Organisation' by 21.64% ( $p=0.019$ ), 'Storytelling skills' by 25.48% ( $p=0.0024$ ), 'Engagement with listener' 25.96% ( $p=0.0024$ ) and 'Speaking style' by 30.45% ( $p=0.0015$ ) after the Doctors as Storytellers programme. 89% of students agreed or strongly agreed that DaS furthered their understanding of the communication skills required to orally case present.

**Discussion and Conclusions:** Performance training co-delivered by an actor and clinician, can significantly improve medical students' confidence, overall organisation, speaking style, engagement with their listeners and their storytelling skills for OCP. Medical students enjoy performance training and see its value in practice. Medical schools should be working towards creating competent oral case presenters in order to enhance inter-professional communication and henceforth patient care.

**Take-home Messages:** • OCP structure and style is currently poorly taught, if taught at all. • Performance training significantly improves medical student case presentation and communication skills.

## #4KK - Posters - Communication Skills

### 4KK03 (223)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The attendance to SHARE model communication course by physicians increases the signing of do-not-resuscitate orders for critical patients in the emergency room

#### AUTHOR(S):

- Chi-Cheng Liang, Department of Trauma, Kaohsiung Chang Gung Memorial Hospital, Taiwan (Presenter)
- Ya-Hui Cheng, Department of Radiation Nursing, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Chih-Hung Chen, Department of Internal medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Chia-Te Kung, Department of Emergency Medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Meng-Chih Lin, Department of Pulmonary and Critical Care, Kaohsiung Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** This study aimed to investigate the effect of attending a SHARE model communication course by emergency physicians on patient notification and signing of do-not-resuscitate (DNR) orders for critical patients in the emergency room.

**Summary of Work:** From a total of 29 attending physicians in the emergency department, 19 physicians had attended the SHARE model communication course. An observation form designed based on the SHARE model was completed by two observers who noted the communication process between physicians and patients and family members during patient notification and signing a DNR order.

**Summary of Results:** There were 145 individuals enrolled in the study, of which 93 signed the DNR order, and 52 did not sign it. Analysis from 23 matched pairs from this population revealed that significantly more family members would sign a DNR order if the physician had attended the SHARE model course than when they did not attend this training ( $p=0.017$ ).

**Discussion and Conclusions:** The overall score of the observation form for physicians was higher in those individuals who had signed a DNR order than in those who did not sign it ( $p=0.003$ ), especially when the physician had chosen a quiet environment ( $1.35 \pm 0.65$  vs.  $0.87 \pm 0.69$ , respectively,  $p=0.020$ ), understood the patient's wishes and confirmed them ( $p=0.008$ ), and expressed concern ( $p=0.028$ ).

**Take-home Messages:** Structural communication mode, improves attending physician informing disease communication, touching patient family, satisfy both sides, allow SHARE model to assure teaching effects.

## #4KK - Posters - Communication Skills

### 4KK04 (2223)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Influences of Provider Gender on Underlying Communication Skills and Patient Centeredness in Pain Management Clinical Scenarios

#### AUTHOR(S):

- Jeffrey Wilhite, New York University, USA (Presenter)
- Harriet Fisher, New York University, USA
- Khemraj Hardowar, New York University, USA
- Lisa Altshuler, New York University, USA
- Sondra Zabar, New York University, USA
- Colleen Gillespie, New York University, USA

#### ABSTRACT

**Background:** Physicians must be skilled in diagnosing and treating chronic pain. Studies have shown that female providers provide more patient-centered communication, which has been linked to patient activation and satisfaction. We explore, using Unannounced Standardized Patients (USPs), whether resident physician gender is associated with core underlying skills needed to diagnose and management chronic pain: communication, patient centeredness, and patient activation.

**Summary of Work:** Two USP cases were sent into two urban, safety-net clinics. The cases were similar: a 30-35 y.o. male, presenting with either heavy lifting-induced shoulder pain or knee pain due to a recreational sports injury. USPs completed post-visit checklists that assessed patient satisfaction (4 items), patient activation (3 items), and communication skills (13 items) using a behaviorally-anchored scale (not done/ partly done vs. well done). Summary scores were calculated for the three domains. Residents provided consent for their educational data to be used for research.

**Summary of Results:** 135 USP visits (80 female providers, 55 male) occurred from 2012-2018. Female providers saw 41 shoulder pain and 39 knee pain cases while male providers saw 21 shoulder and 34 knee cases. ANOVA assessed differences in summary scores by provider gender (male vs female) and by case portrayed (knee vs shoulder). Skills did not differ significantly by knee or shoulder pain case. Gender effects were not seen for patient centeredness or patient activation; however female providers performed significantly better at relationship development (83% vs males 72% shoulder pain; 70% vs 66% knee pain case;  $p < .001$ ) and information gathering (86% vs. males 72% shoulder pain; 79% vs 66% in knee case;  $p < .016$ ). Male providers performed slightly better in patient education and counseling (65% vs 63% for shoulder and 38% vs 33% for knee cases;  $p < .001$ ).

**Discussion and Conclusions:** We plan to link these underlying skills to pain management decisions and documentation. Patient activation may best be measured at follow-up, something not possible with our current USP methodology. Gender differences could be viewed as striking in the context of our relatively homogeneous sample and shared clinical environment/healthcare system.

**Take-home Messages:** USPs provide granular views of patient experiences. We saw gender differences on four measures of provider competence. Care quality differences will require future research.



## #4KK - Posters - Communication Skills

### 4KK05 (664)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Breaking Bad News: Assessing Medical Student Skills

#### AUTHOR(S):

- Pirunrat Jiaraksuwan, Surin Hospital Medical Education Center, Thailand (Presenter)
- Pinyok Srisansanee, Surin Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Breaking bad news is one of a most challenging tasks for physicians. The process involves providing information and responding to patients' emotional reactions simultaneously. Medical students need to learn to develop these skills. This study aims to identify areas that medical students can improve when delivering bad news to patients.

**Summary of Work:** In this cross-sectional study, a mock session was used to assess the 6th year medical students on their ability to discuss positive HIV test results to a patient and provide 1:1 counseling. Following the session, the students completed questionnaires and scored their own performances.

**Summary of Results:** Of 36 medical students participated, 69.4% reported feeling confident during the counseling. Almost all had practiced previously with either simulated patients (97.2%) or real patients (94.4%). Nearly half of the students acknowledged overlooking these areas during the counseling: determining patient's readiness for the news (44.4%), assessing patient's reactions after hearing the news (41.6%), and discussing referrals and next steps of management (38.8%). Fifty percent of students stated that they did not give patients enough time to process the news. Notably, majority did not ask about the patient's support system or their plan to deliver news to family members and/or sexual partners (72.2%).

**Discussion and Conclusions:** Ineffective counseling was clearly demonstrated in a group of 6th year medical students during a mock session on delivering bad news. Possible reasons for poor performance include inadequate training, inability to communicate effectively, failure to understand patient's state of mind, and insufficient counseling time. In addition, the students were aware of the simulated teaching scenarios and could exhibit different behaviors when interacting with real patients. Findings from this study suggest that medical students would benefit from additional training on breaking bad news, particularly assessing patients' emotional state and identifying family support. Conclusions Simulated sessions on breaking bad news followed by feedback are a useful self-evaluating tool for medical students.

**Take-home Messages:** Effective communication skills need practice, self-awareness, and feedback.

## #4KK - Posters - Communication Skills

### 4KKo6 (1025)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Educating health professionals in audio-visual communication. A Medical Education Perspective: Systematic review

#### AUTHOR(S):

- Maria Rosa Fenoll-Brunet, Universitat Rovira i Virgili, Spain (Presenter)
- Ariadna Roca-Fernandez, Universitat Rovira i Virgili, Spain

#### ABSTRACT

**Background:** Communication is an essential competence in medical education. In this context, audiovisuals can be key instruments to facilitate learning for trainees and trainers and also for patient's education. Nowadays, the digital facilities for video editing have replaced the analogical edition of images and audio from the past. These digital facilities are available in nearly all Smartphone devices and videos can be easily widespread through their use on social media platforms, but most are not adequately educational purposes. As a consequence, it has become a rising, complex and controversial issue worldwide which and, as a recommendation, healthcare professionals should become competent in audiovisual communication during their training period.

**Summary of Work:** We investigated for competences to train medical students by using audiovisual tools in seven databases (MEDLINE/Pubmed, SCOPUS, Web of Science, ERIC, CINAHL, Cochrane Library and Science Direct). Methods for qualitative data collection included a PRISMA protocol for systematic review. Articles published between 2014 and 2018 were identified according to predefined inclusion and exclusion criteria.

**Summary of Results:** 69.086 potential studies were initially found, of which 30 were included. This review identified essential competencies needed to face current challenges in medical audiovisual communication education. Including new educational methods, patients education and different medical and surgical areas.

**Discussion and Conclusions:** This review discusses the great impact of audiovisuals in medical education and their usefulness for patient's education. Main conclusions are: 1. Video has been successfully used at different stages of medical training. Such as undergraduate and postgraduate education and residency programs, as well as in continuing medical education, in particular for surgery education. 2. Medical trainees accessing video resources performed significantly better. 3. Recommending patients to target specific videos, it has been noted that adherence to protocols and treatments improves. 4. Health education videos provide added value as an educational tool. Moreover, they are portable, can be viewed multiple times at convenience and can be tailored to individual needs.

**Take-home Messages:** Medical education trainers must take advantage of using audiovisuals properly but also training health professionals the main skills to ensure self-creating video-messages professionally and ethically correct.

## #4KK - Posters - Communication Skills

### 4KKo7 (2884)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

**Communication in everyday clinical practice from the point of view of different professions - A study on the perception of communication processes and requirements at a urological clinic**

#### AUTHOR(S):

- **Barbara Hinding, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy (IMPP), Germany (Presenter)**
- Nicole Deis, IMPP, Germany
- Dominik Fugmann, Universitätsklinikum Düsseldorf, Klinisches Institut für Psychosomatische Medizin u. Psychotherapie, Germany
- Markus Giessing, Klinik für Urologie, Universitätsklinikum Düsseldorf, Germany
- Peter Albers, Klinik für Urologie, Universitätsklinikum Düsseldorf, Germany
- Jana Jünger, IMPP, Germany

#### ABSTRACT

**Background:** The promotion of interprofessional communication skills is an important goal for medical education and training in Germany. This applies not only to undergraduate medical studies, but especially to further training as a specialist. To date, there is hardly any content and learning objectives available for this, as these have to be developed in a subject-specific manner. The present study therefore focuses on the field of urology with the aim of determining the specific need for communication-related training among assistant physicians and nursing staff.

**Summary of Work:** We conducted a study on the perception and assessment of communication and communication requirements at a urological clinic to derive contents and learning objectives for communication. 15 nurses and 6 assistant doctors passed individual interviews, additionally two group interviews with 7 assistant doctors and 6 nurses were carried out. They were evaluated according to qualitative content analysis with a focus on critical interaction events and their social and organizational context.

**Summary of Results:** Nurses and doctors reported similar challenges. These include, for example, emotionally stressful situations such as dealing with patients with advanced tumor diseases or uncertain prognoses, as well as dealing with mistakes. Equally important was the communication between the professions that was often described as deficient. The most frequently mentioned situations are the handover and the rounds, where problems often arise with the passing on of information up to the loss of information. However, there is also a lack of structures for exchange across situations.

**Discussion and Conclusions:** The results for this urological clinic show great agreement in the desire for improved communication between professional groups as well as in critical communication requirements. Therefore, not only the further development of interprofessional cooperation can be jointly elaborated, but also the training of communicative competences for interaction with patients can be carried out with both professional groups together.

**Take-home Messages:** We would therefore recommend training doctors and nursing staff together.

## #4KK - Posters - Communication Skills

### 4KKo8 (869)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### 3D Sensor for Health Professions' Education - Interaction Analysis in Medical Interview by Kinect Sensor

#### AUTHOR(S):

- Yoichiro Iwashita, Kagoshima University, Japan (Presenter)
- Reiko Yoshida, Kagoshima University, Japan
- Yuko Matsumoto, Kagoshima University, Japan
- Takayuki Oto, Kagoshima University, Japan
- Tetsuya Sakuta, Kagoshima University, Japan
- Norihiro Taguchi, Kagoshima University, Japan

#### ABSTRACT

**Background:** There are some difficulties at quantitative assessment of medical interview in health professions' education. In medical interview assessment, verbal and non-verbal communication and counseling activities were assessed. In previous work (AMEE 2016), we analyzed dental trainees' medical interview by 3D sensor (Microsoft Kinect Sensor(C)) and found correlation between trainers' evaluation score and time for facing or talking with simulated patient (SP). In this work, we analyzed connected movement of dental trainee (interviewer) and SP.

**Summary of Work:** In medical Interview of dental trainee's OSCE, Kinect sensor and video camera were used to acquire verbal and non-verbal communication data in 5-minutes examination time. The angle of the head and neck to a vertical direction of the dental trainee and SP during a medical interview was measured by Kinect sensor, and calculated the cross correlation function of angles in dental trainee and SP. Dental trainees were divided into 3 groups according to trainers' evaluation, high, mid, and low score groups. Maximum value in cross correlation function of the angle for dental trainee and SP were compared in each group.

**Summary of Results:** Maximum absolute value of cross correlation function of the angle in high score group tend to be smaller than that in low score group. In low score evaluation group, larger peaks of cross correlation function were observed.

**Discussion and Conclusions:** These results suggest that dental trainees in high score evaluation group tend to talk facing to SP. On the other hand, dental trainees in low score group tend to move following SPs movement. 3D sensor has potential to evaluate communication skills in medical interview quantitatively. We would like to promote the possibility and future applications of a further health professions' education field.

**Take-home Messages:** Potential of 3D sensor technology such as Kinect for medical education was shown.

## #4KK - Posters - Communication Skills

### 4KK09 (2044)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Communication in Emergency Department: How red is red?

#### AUTHOR(S):

- Krittaya Kanjanarut, Udonthani Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Curriculum of Medicine bachelor has been developed at Medical Education Center of Udonthani Hospital in 2016. The Curriculum intends to improve teaching course of communication skills. This study aimed to evaluate the communication skills and to identify the association of sex, rotating groups of students and level of triage with these skills in Emergency Department (ED).

**Summary of Work:** Seventy-four medical students of the sixth year were enrolled in the course for 4 weeks. The ED has used five-level triage system of Emergency Severity Index. The communication skills were evaluated using the observation forms at two points of time during the course periods. Data were analyzed using descriptive, repeated measures ANOVA and paired samples test.

**Summary of Results:** Overall, the communication scores significantly improved overtime. ( $7.06 \pm 0.96$  to  $7.73 \pm 1.23$ ,  $p < 0.05$ ). Sex and rotating groups of students were not associated with communication skills ( $p > 0.05$ ). Level of triage was associated with the communication skills ( $p = 0.00$ ). The results of the level 1 showed that the communication skills of students categorized into 5 different subtypes were not significantly improved over time ( $p > 0.05$ ). The communication scores did not significantly improve overtime in 4 subtypes; initiating communication ( $6.43 \pm 0.64$  to  $6.68 \pm 0.78$ ,  $p > 0.05$ ), giving information ( $6.59 \pm 0.64$  to  $7.01 \pm 0.59$ ,  $p > 0.05$ ), building relationship ( $5.66 \pm 0.63$  to  $5.73 \pm 0.67$ ,  $p > 0.05$ ) and closing communication ( $6.50 \pm 0.62$  to  $6.64 \pm 0.61$ ,  $p > 0.05$ ). In contrast, the results of the other levels showed that the communication skills of students categorized into 5 different subtypes were significantly improved over time ( $p < 0.05$ ).

**Discussion and Conclusions:** The level-1 patient will be sent to Red Zone. The Red Zone has many variables within the emergency setting affect communication. Although the course was structured in three parts, the results of the Red Zone did not improve. In the ED, overall the communication skills of students significantly improved overtime. Observational design of the study might be both advantages and weaknesses for analysis.

**Take-home Messages:** Communication in the Red Zone has been challenged; the strategy to further advancements is prepared.



## #4KK - Posters - Communication Skills

### 4KK10 (307)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Standardized and deliberate learning as an effective method to deliver phone drug information consultation skills to pharmacy students

#### AUTHOR(S):

- Cheng-Yi Chao, Tri-Service General Hospital, Taiwan (Presenter)
- Chin-Sheng Lin, Tri-Service General Hospital, Taiwan
- Nai-Yung Hung, Tri-Service General Hospital, Taiwan
- Shiao-Ping Wang, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** Providing phone drug information to patients is complex and remains a big challenge for pharmacy students. Medical simulation offers great chances of deliberate learning and objective assessments for medical staffs and young faculties to promote patient safety and medical quality. In this study, we evaluated the effects medical simulation with standardized and deliberate learning on the delivery of phone drug information consultation skills to pharmacy students.

**Summary of Work:** We established standard criteria with the components of queries collection, solution searching, and response skills and design clinical scenario to evaluate the phone drug information consultation skills to pharmacy students. After first simulation activity, instructors provided feedback and discussed with students for the key components of the standardized consultation skills. Then the students performed practice with different cases. Following deliberate learning, the second simulation activity was conducted. During simulation activities, two senior instructors evaluated and guided the students. The performance outcome before and after deliberate learning was evaluated by McNemar test. Chi-square test was used to compare the outcome with previous curriculum, which contains only one simulation activity after case practice.

**Summary of Results:** The capacities of queries collection ( $4.44 \pm 1.3$  v.s  $5.85 \pm 0.36$ ,  $p < 0.001$ ), solution searching ( $2.54 \pm 1.57$  v.s  $4.15 \pm 1.25$ ,  $p < 0.001$ ), response skills ( $1.67 \pm 1.47$  v.s  $3.95 \pm 1.22$ ,  $p < 0.001$ ), and self-confidence ( $5.47 \pm 2.75$  v.s  $7.03 \pm 1.66$ ,  $p < 0.001$ ) significantly improved after these activities. Compared with previous similar curriculum, these consultation skills of pharmacy students significantly enhanced in the current curriculum. Moreover, students proposed their notable improvement in consultation skills and self-confidence after repeated simulation activities.

**Discussion and Conclusions:** Increasing evidence suggests the encouraging role of simulation-based medical education, which effectively achieves the education goals by deliberate learning. Our studies demonstrated the significantly beneficial effects of repeated simulations on the improvement of queries collection, solution searching, and response skills, which are essential components of consultation skills, and promoted self-confidence and learning motivation for pharmacy students.

**Take-home Messages:** Repeated medical simulations with standardized and deliberate learning is an effective and promising way to deliver phone drug information consultation skills to pharmacy students.

## #4KK - Posters - Communication Skills

### 4KK11 (1602)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Physician Assistant Training in the Effective Use of Interpreters

#### AUTHOR(S):

- Chris Gillette, Wake Forest School of Medicine, USA (Presenter)
- Brian Peacock, Wake Forest School of Medicine, USA
- Carol Hildebrandt, Wake Forest School of Medicine, USA
- Jamie Blalock, Wake Forest School of Medicine, USA
- Sonia Crandall, Wake Forest School of Medicine, USA

#### ABSTRACT

**Background:** According to Street's theory of how communication can heal (2009), provider-patient communication has the potential to improve health outcomes through direct and indirect routes, including information exchange, fostering relationships, and enabling self-management of health conditions. When language barriers impede effective provider-patient communication, the potential for an avoidable negative patient outcome exists. In a time of growing global migration, it is imperative that healthcare providers effectively communicate with diverse patient populations.

**Summary of Work:** An observational study followed five cohorts of physician assistant (PA) students in the USA. Students received training from a certified medical interpreter and a faculty member about effective use of medical interpreters in patient encounters. Afterward, students interviewed a non-English speaking standardized patient via an interpreter. Interpreters evaluated students using a validated instrument. Internal consistency of the instrument was assessed using Kuder-Richardson-20; data were analyzed using non-parametric tests. Approximately 6 months after graduation, students completed a questionnaire asking about their experience of using medical interpreters during clinical rotations.

**Summary of Results:** There were usable data on 439 PA students from five cohorts (n=439). The median number of areas students performed or partially performed was 10 out of a possible total of 12 (Inter-quartile range=3). Internal consistency was shown to be 0.68, indicating adequate reliability. Areas for further refinement of training were: (a) Asking patient to repeat instructions (n=203); (b) thanking the interpreter (n=170); and (c) not allowing the interpreter to paraphrase (n=146). Based on the graduation questionnaire, all students completed at least one clinical rotation that included the use of medical interpreters. The rotation site with the greatest use of medical interpreters was Emergency Medicine.

**Discussion and Conclusions:** Improving communication among future health care professionals is imperative for improved patient outcomes. A training activity for PA students in the USA that focused on the effective use of certified medical interpreters found that the rubric had acceptable internal consistency and that students generally performed well on the assessment.

**Take-home Messages:** Improving provider-patient communication in a time of growing global migration is critical. Future studies could explore specific communication strategies to improve communication with diverse patients.

## #4KK - Posters - Communication Skills

### 4KK12 (1266)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The shortcomings of medical record writing in different levels of trainees

#### AUTHOR(S):

- Chiu-Ping Kuo, MacKay Memorial Hospital, Taiwan (Presenter)

#### ABSTRACT

**Background:** Accurate and complete medical records is essential for the communication between members of the healthcare team and the safety of the patient care. A teaching program of medical record writing has been started at a teaching ward of general medicine since July 2018. This study is to evaluate the competence and to identify the shortcomings of medical record writing in different levels of the trainees (senior residents, PGY-1 and medical students) before starting the teaching program.

**Summary of Work:** The study was performed in July 2018 by reviewing the medical records (focused on admission note and progress note) made by different levels of trainees and scored with our designed scoring checklist. There are several scoring sub-items in each section of a medical record. The results were analyzed with SPSS (Statistical Product and Service Solutions) software.

**Summary of Results:** In admission note, the average score is lowest in PGY-1 (70.3%). All levels of trainees obtained the lowest scores in assessment & plan (59%~68.3%). Senior residents obtained lower scores (84%) than other levels of trainees in personal history and allergy. Medical students obtained lower scores (82%) than other levels of trainees in chief complaints. In progress note, the average score is lowest in medical students (68.6%). Medical students obtained lower scores than other levels of trainees in problem list (67.3%) and clinical reasoning (57.3%). Residents and PGY-1 are inferior in the structure and composition of progress note.

**Discussion and Conclusions:** There are different shortcomings in medical record writing in different levels of trainees. Generally, medical students have better structure and composition concepts but are inferior in chief complaints, problem lists and clinical reasoning. PGY-1 and senior residents are inferior in the structure and composition. All levels of trainees need to improve the writing of assessment and plan.

**Take-home Messages:** There are different shortcomings of medical record writing in different levels of trainees. Clinical teachers may design different teaching interventions to improve their medical record writing.

## #4KK - Posters - Communication Skills

### 4KK13 (2690)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### If you didn't write it, it didn't happen - can documentation skills be taught in simulation?

#### AUTHOR(S):

- **Andrea Pereira, Great Western Hospital, UK (Presenter)**
- Giles Dixon, Great Western Hospital, UK
- James Ross, Great Western Hospital, UK
- Garazi Zubikarai, Great Western Hospital, UK
- Andrew Stanton, The Newcastle-upon-Tyne Hospitals NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Written documentation is a vital form of medical communication, however teaching in it is minimal. Documentation is particularly difficult with an acutely unwell patient - frequently encountered out-of-hours and without supervision. We investigated the abilities of final year medical students in documentation. We then evaluated whether brief teaching could improve pre-defined objective documentation measures.

**Summary of Work:** After an acute medical simulation, students were asked to document their review. To enhance fidelity they were given a time limit and supplementary material such as test results. One half of the group was given teaching at the start of their session, the other half completed the task with no additional guidance. All students had a debrief, including feedback on documentation produced and received guidance at the end of the course. Students completed surveys to before and after their simulation. Documentation was marked using pre-determined criteria -based on published guidance from the GMC, MDU and RCP. Markers were blinded regarding group. Results were analysed using unpaired t-tests in SPSS.

**Summary of Results:** 30 students participated in the pre-simulation survey, 24 completed the post-simulation survey. 79.2% of students had documented in medical notes before - of these, 89.5% on a ward round, 78.9% as a patient clerking and only 42.1% as an on-call review. None had received teaching on documenting. 96.7% had never documented in simulation. The mean score of students without teaching (n=7) was 18/31, this improved significantly to 23.4/31 with teaching (n=12). Mean difference of 4.7 (95% CI 2.57-6.82, p<0.05). The pre-task mean confidence for all students was 1.97/5 (5= extremely confident), this improved to 2.5/5 in the group with practice and 4/5 in the group with brief teaching and practice. Commonly missed areas were discussion with patient/relative, name of the senior advising doctor and signature.

**Discussion and Conclusions:** Our survey confirms lack of teaching as indicated in literature and that experience is particularly lacking in acute situations. Practice was well-received, and the statistically significant improvement in the scoring indicated the efficacy of the intervention.

**Take-home Messages:** Simulation regularly involves practice of other communication e.g. SBARs handovers. Our study confirms it is a good opportunity to address written documentation skills too.

## #4KK - Posters - Communication Skills

### 4KK14 (1910)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploration and Practice of Medical Narrative Writing as a Way of Cultivating Medical Humanistic Spirit

#### AUTHOR(S):

- Wei Li, School of Clinical Medicine School of Clinical Medicine, Shanghai University of Medicine & Health Sciences (SUMHS), China (Presenter)
- Qiaoling Cai, School of Clinical Medicine, Shanghai University of Medicine & Health Sciences (SUMHS), China
- Xiong Ye, School of Clinical Medicine, Shanghai University of Medicine & Health Sciences (SUMHS), China
- Hongmei Tang, School of Clinical Medicine, School of Clinical Medicine, Shanghai University of Medicine & Health Sciences (SUMHS), China

#### ABSTRACT

**Background:** Medical humanistic spirit is regarded as one of the core requirements of professional accomplishment in Chinese Undergraduate Medical Education Standard - Clinical Medicine Specialty (2016 edition). The purpose of medical humanities education is to guide medicine to take people as the foundation in its development and practice, and to realize the humanistic spirit penetrating all fields of medicine.

**Summary of Work:** In order to cultivate the medical humanistic spirit, sequential narrative medicine education is designed in the curriculum, which includes early community care practice, preventive medicine practice and primary care practice. The classroom is extended to patients through exploring “patients’ illness stories”. During the two-week community clinical practice, each student was assigned to visit three patients, including two inpatients and one family bed patient. The patients stories were written into parallel medical records through interviews. We selected 70 cases from 300 parallel medical records to compile narrative medical stories, which involved community medical service system, medicine and society, doctor-patient relationship, communication and doctor-patient empathy.

**Summary of Results:** The practical teaching system of narrative medicine was constructed, the writing form of parallel medical records was designed, the narrative medical stories were compiled, and the methods of medical humanities education and the training of doctor-patient empathy ability were preliminarily formed.

**Discussion and Conclusions:** Narrative medicine is an effective practice in medical humanities education. Medical humanism and doctor-patient empathy can be trained by interviewing patients and writing parallel medical records. Through writing parallel medical records, students recognize their future social role and improve their capability of doctor-patient communication, professionalism and health promotion awareness.

**Take-home Messages:** The research on narrative medicine education and parallel medical record writing is still in the early development. It is necessary to establish an evaluation system and constantly improve it.



## #4KK - Posters - Communication Skills

### 4KK15 (178)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Awareness of professional and academic literacy among Swedish dental students

#### AUTHOR(S):

- Nikolaos Christidis, Karolinska Institutet, Sweden (Presenter)
- Sofia Louca Jounger, Karolinska Institutet, Sweden
- Maria Christidis, The Swedish Red Cross University College, Sweden
- Viveca Lindberg, Stockholm University, Sweden

#### ABSTRACT

**Background:** Reading and writing are seen as self-evident academic literacy competences in contemporary dental education. It takes time to become a skilled dentist; what seems less obvious is that it also takes time to become a skilled writer in academia. However, dental work also requires professional literacy competence. The aim was to scrutinise Swedish dental students' writing in an academic setting: what students are expected to read and write, how they are expected to do this, for what purposes they read and write.

**Summary of Work:** This study is framed within the tradition of New Literacy Studies, and was conducted during the third year of the study-programme in dentistry, during the modules "orofacial pain and jaw function 1 and 2", at Karolinska Institutet. Literacy events were mapped throughout all activities (lectures, clinical work, examinations). During clinical work, only field-notes were taken. The material consists of: a) curricular documents; b) ethnographic data from lectures and clinical work (sound-recordings and field-notes during lectures, textbooks, hand-outs and student notes from given lectures, multiple-choice questions from the digital examination and clinical instructions); c) interviews with students.

**Summary of Results:** During lectures, PowerPoints were used for structuring knowledge related to orofacial pain and jaw-function. All slides were distributed in advance to students via a digital learning-environment. Most slides were multimodal: text and graphical pictures of anatomical and physiological information, as well as pathology and treatment. While some students predominantly wrote complementing text, others copied and/or reformulated text. Some made notes directly in the PowerPoint, others took notes separately. The purposes of students' note-taking revealed both professional and academic purposes.

**Discussion and Conclusions:** A general pattern for students' handwritten notes was copied text from the teacher-constructed PowerPoint, while for digital notes was complementary information. When slides comprised figures or pictures, students tend to describe and explain them using own words. Less amount of text on slides seem to enable students to produce independent notes. Interviews revealed that students complemented their notes afterward based on lectures and course-literature.

**Take-home Messages:** Dental students display awareness of the need for professional and academic literacy and can distinguish between these.

## #4KK - Posters - Communication Skills

### 4KK16 (3280)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Franco Doc: Developing French-speaking health human resources in Francophone minority settings

#### AUTHOR(S):

- Geneviève Moineau, Association of Faculties of Medicine of Canada, Canada (Presenter)
- Danielle Barbeau-Rodrigue, Northern Ontario School of Medicine, Canada
- Aurel Schofield, Association of Faculties of Medicine of Canada, Canada
- Philippe Leblanc, Association of Faculties of Medicine of Canada, Canada

#### ABSTRACT

**Background:** The Association of Faculties of Medicine of Canada in association with community partners launched the Franco Doc project. Having identified the need to provide better access to health care for French-speaking Canadian in official language minority communities, Franco Doc was launched to address this problematic.

**Summary of Work:** The goals of the Franco Doc initiative were to identify and mobilize Francophone and Francophile students, prepare and equip them for work in the community and recruit them for placements in official language minority communities.

**Summary of Results:** By working in partnership with community partners, Franco Doc helped to facilitate alliances among faculties of medicine, community health networks and other organizations to set up a liaison committee between each faculty and the community in order to encourage them to maximize the recruitment and facilitate the integration of French-speaking health care professionals in these communities.

**Discussion and Conclusions:** By placing the communities at the center of the initiative, it allowed communities to take an active role in educating learners and education establishments about their particular realities and for faculties to respond appropriately. The Franco Doc project discovered that approximately 200 French-speaking medical students enter the Canadian medical schools each year.

**Take-home Messages:** Our 14 faculty-community liaison committees along with those student representatives collaborate together to develop and offer interactive learning activities and networking events in order to provide those new students with a better understanding of the reality of accessing health care services in Francophone minority communities. The model of the project could be duplicated and implemented all over the world in other minority communities in need as well.

## #4KK - Posters - Communication Skills

### 4KK17 (2877)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Assessing the Hidden Curriculum for the Care of Patients with Limited English Proficiency: An Instrument Development

#### AUTHOR(S):

- **Claudia Rosu, MGH Institute for Health Professions, USA (Presenter)**
- Tiffany Kenison, Department of Medicine, Mount Sinai Hospital, USA
- Chijoke Nze, Department of Medicine, Brigham and Womens Hospital, USA
- Alexander R. Green, Division of General Internal Medicine, Massachusetts General Hospital; Harvard Medical School, USA

#### ABSTRACT

**Background:** Patients with limited English proficiency (LEP) are a growing population in the USA at risk for disparities in quality and safety of care. Medical student competency to care for patients with LEP is impacted by a hidden curriculum (HC) that undermines the learning experience; yet to date, there is no way to measure it. Thus, we designed an instrument to assess this HC.

**Summary of Work:** Based on findings from previous qualitative work and input from medical students and experts in LEP and psychometrics, we developed a 23-item survey with four domains. We e-mailed this to 3rd and 4th year students from two medical schools in the US. We conducted principal axis factoring to determine the instrument's construct validity. Only items with a factor loading  $\geq 0.50$  were retained.

**Summary of Results:** We obtained 111 complete responses. Twenty-two of the 23 original items were retained. Four factors/ components emerged, which did not support the original proposed domains. Three factors loaded on a mix of role modeling, and learning environment, structural, and organizational variables, while the fourth factor retained two role modeling items. Based on the factor extraction solution, we restructured the instrument into three domains: role modeling, demonstration of effective systems, and consequences of structural barriers for patients with LEP (Cronbach's alpha: 0.81–0.95, total variance accounted for 53.7%).

**Discussion and Conclusions:** The results led us to reassess the domain structure to create an instrument representing students' perceptions and context. Our instrument, the LEP-HC, will allow medical educators to investigate a specific and important HC and improve teaching about care of patients with LEP.

**Take-home Messages:** Principal axis factoring applied to a 23-item instrument assessing the hidden curriculum for the care of patients with limited English proficiency resulted in a restructuring of the instrument into three domains different from the ones obtained through qualitative analysis combined with student and experts' input.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL01 (1459)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Does emotional competency at the time of admission affect the subsequent levels of academic achievement?

#### AUTHOR(S):

- Koji Tsunekawa, Department of Institutional Research for Medical Education, Japan (Presenter)
- Keiko Abe, Aichi Medical University, College of Nursing, Critical Care Nursing, Japan
- Toshiki Shioiri, Department of Institutional Research for Medical Education, Japan

#### ABSTRACT

**Background:** It is essential for medical students to cultivate attitudinal competency. Previous studies have shown that emotional competence is an important factor that influences patient-physician relationships and patient care. This study aimed to investigate the influence of new medical students' emotional intelligence (EI), empathy and personality on their future academic achievement.

**Summary of Work:** The research participants were 398 first-year medical students at Gifu University from 2008 to 2011. They were classified into retention (n=52) and non-retention (n=346) groups. Then we compared the assessments of EI as per the Trail Emotional Intelligence Questionnaire-Short Form (TEIQue-SF), empathy as per the Jefferson Scale of Physician Empathy (JSPE) and personality as per the NEO-Five Factor Inventory (NEO-FFI), which explores five dimensions of personality: Neuroticism (N), Extraversion (E), Openness to experience (O), Agreeableness (A) and Conscientiousness (C).

**Summary of Results:** In the t-test following a Bonferroni correction, the non-retention group was significantly higher in the E dimension of NEO-FFI than the retention group ( $p=0.037$ ,  $d=0.40$ ) but not in TEIQue-SF, JSPE and other dimensions of NEO-FFI. Furthermore, a logistic regression analysis with the E dimension of NEO-FFI added to the known variables such as gender, age at admission, location of and academic performance in secondary school and scores on admission tests was also carried out. The low score of E dimension of NEO-FFI was a significant variable ( $p=0.027$ ) in retention along with distant location ( $p=0.012$ ), low academic performance in secondary school ( $p=0.025$ ) and male ( $p=0.046$ ).

**Discussion and Conclusions:** In previous research, students getting high scores in the E dimension of personality testing tend to be sociable and like gathering in big groups for meetings. These results indicate that studying in a group aids in acquiring positive outcomes in medical school. Further studies will be required to demonstrate that EI and empathy may relate to more detailed outcomes such as assessment of clinical clerkship in medical students.

**Take-home Messages:** By examining the results of the personality tests at the beginning of the year, it may be possible for new students to be aware of their own risks and for faculties to assist them.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL02 (82)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Teaching Practices Reflecting Emotional Intelligence among University Teachers in Higher Learning

#### AUTHOR(S):

- Norul Hidayah Binti Mamat, International Medical University, Malaysia (Presenter)

#### ABSTRACT

**Background:** Emotional intelligence abilities of university teachers are more likely established conducive emotional teaching and learning environment through their teaching practices, thus promotes learning motivation and engagement among the students. Despite the emphasis on the importance of teachers' emotional intelligence abilities in teaching, it continues being less acknowledged and under developed. This is evidenced by fewer studies reported on the relationship between emotions and teaching approaches in higher education. This study therefore attempts to explore the roles of emotion and teaching practices reflecting emotional intelligence among university teachers in higher learning, guided by Four-Branch Emotional Intelligence Ability Model by Mayer, Salovey and Caruso (2004).

**Summary of Work:** Qualitative design of descriptive case study was applied with a total of ten university teachers recruited based on the inclusion criteria and semi structuredly interviewed. As case study requires multiple data sources, interviews were subsequently conducted with five university students and a Deputy Vice Chancellor. In addition, scores from Wong and Law Emotional Intelligence Scale (WLEIS) of the university teachers were obtained and tabulated.

**Summary of Results:** Findings established the emergence of twelve themes and nine subthemes that include essential roles of emotion in teaching, alignment between emotional intelligence and teaching practices and acknowledging own emotion. Subsequently, the other themes corresponded to the emotional intelligence abilities of perceiving, facilitating, understanding and managing emotion based on Four Branch-Emotional Intelligence Ability Model. Those were further supported by university teachers' scores of Wong and Law Emotional Intelligence Scales which were found to achieve a median of 5 and above based on seven Likert scale on four major domains namely self-emotional appraisal, other's emotion appraisal, use of emotion and regulation of emotion.

**Discussion and Conclusions:** The study has shown the importance of developing emotional intelligence abilities as it directly influences teaching and learning processes. As a matter of fact, the abilities have been unconsciously embedded and demonstrated through teaching practices.

**Take-home Messages:** Having observed considerable amount of emotional intelligence skills reflected through teaching practices and the equally felt impact by the students, trainings of emotional intelligence may need to be developed and perhaps it could be included as one of the competencies of university teachers.



## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL03 (1571)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Emotional Intelligence: diagnosis and evaluation in medical students

#### AUTHOR(S):

- Rosalba Esther Gutierrez Olvera, Anahuac University, Mexico (Presenter)
- José Marcos Felix Castro, Anahuac University, Mexico
- David Cerdio Dominguez, Anahuac University, Mexico

#### ABSTRACT

**Background:** Emotional Intelligence (EI) is the ability to identify people's emotions to discriminate and use them to guide thought and act. There are 4 main competences: The ability to perceive emotions, use emotions to facilitate thinking, understand and manage emotions. In the 1950s, Abraham Maslow wrote about how people could improve their emotional, physical, spiritual and mental strengths; later Peter Salovey made the correlation between intelligence and emotions determining that emotions should be recognized as a substantial value.

**Summary of Work:** Several studies have been carried out exploring the mental health of medical students throughout the professional training, finding EI is directly related to well-being. Objective: Make a situational diagnosis about EI in medical students. Hypothesis: The medical students don't have a clear knowledge about the EI. Materials and Methods: 256 Surveys were carried out in the following semesters: 4th, 8th and 11th regarding the knowledge of EI.

**Summary of Results:** N=256: (93.4%) state that they know what EI is, (57%) of the respondents answered they hadn't had training on this topic. (60.2%) mentioned that no subject provided basic knowledge, (37.9%) received this information in Medical-Patient Communication. (86%) managed to define EI, (98.4%) considered its importance in medical practice, (16.4%) considers not to have adequate training on this topic, (20%) mention not knowing how to identify their emotions. (75.4%) managed to apply the concept of EI.

**Discussion and Conclusions:** Despite the general consensus regarding the importance of Emotional Intelligence, there are multiple challenges to overcome, it seems that the same training process limits the development of this competence since there is a deterioration in the EI of physicians attributable to the desensitization of the depersonalized training. It is therefore vitally to re-evaluate the education plans, giving greater relevance to the development of EI. Medical students are aware of the lack regarding EI, which is why a review is proposed based on the students' perception to favor teaching not just of theoretical-practical knowledge but also of medical humanities.

**Take-home Messages:** It is necessary to extend the study to the actual evaluation of EI, by means of a validated instrument.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL04 (764)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Emotional Intelligence: A predictor of undergraduate student's academic achievement in altered social conditions

#### AUTHOR(S):

- Sundus Tariq, University Medical and Dental College, The University of Faisalabad, Pakistan (Presenter)
- Saba Tariq, University Medical and Dental College, The University of Faisalabad, Pakistan

#### ABSTRACT

**Background:** Emotional intelligence (EI) is an individual's property to recognize him, interact with other living beings and the ability to use his emotions to solve problems in daily life thus influencing student's behavior and performance in academics owing to different social and living conditions.

**Summary of Work:** Objectives: To compare trait EI between students of different faculties and their residing status and to see the faculty-student's residing status and EI-student's residing status interaction on student test scores. Sample: Undergraduate students (n=498), both boarders and day scholars, from seven different faculties of the university. Methods: Cross sectional study assessing trait EI using trait EI questionnaire-short form. Student's yearly test scores was obtained as a measure of academic achievement. Univariate factorial ANOVA and MANOVA was carried for analysis.

**Summary of Results:** There was significant difference in trait EI based on student's faculty,  $F(25, 1669) = 2.97, p < 0.0001$ ; Wilk's  $\Lambda = 0.851$ . Statistically significant interaction was seen between the effects of faculty and student's residing status on test scores,  $F(6, 484) = 2.770, p = 0.012$  as well as EQ and student's residing status on test scores,  $F(1, 494) = 4.384, p = 0.037$ . Tukey's HSD post hoc analysis showed that scores of all students having relatively lower EQ differ significantly between day scholars and boarders ( $p = 0.05$ ), day scholars scoring 3.9% higher as compared to boarders. No such significance is found in students having relatively higher EQ ( $p = 0.98$ ).

**Discussion and Conclusions:** There was significant linkage of faculty and student's residing status on test scores and interaction of EQ and student's residing status showed significant changes in test scores. Literature also corroborate this premise that students with greater EI scores perform better academically owing to their ability to better understand and react to their emotional needs.

**Take-home Messages:** EI is an important factor in academic achievement and important variable in different faculties and living conditions. This can be used as a starting point to guide students for future careers, in assessments and in their selection and placement in hostels based on their EI scores.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL05 (3321)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Personality characteristics of incoming medical students: a Big-Five model perspective for educational strategies design

#### AUTHOR(S):

- Renata Rocha Giaxa, University of Fortaleza, Brazil (Presenter)
- Helena Paro, Federal University of Uberlandia, Brazil
- Carlos Clayton Aguiar, University of Fortaleza, Brazil
- Iana Castelo Rodrigues, University of Fortaleza, Brazil
- Patrícia Tempski, University of Sao Paulo, Brazil
- Milton de Arruda Martins, University of Sao Paulo, Brazil

#### ABSTRACT

**Background:** Medical education studies reveal correlations between big five personality factors and many dimensions of undergraduate medical education: academic performance, life style, learning style and specialty choice. Identifying those factors at first years of academic life may orient educational strategies, once there is a critical opportunity when it is possible to adapt and improve many learning interventions by knowing students personality characteristics.

**Summary of Work:** Incoming students (n=377) from a Brazilian medical school (classes of 2016 and 2017), were invited to respond the NEO Psychological Inventory - Revised (NEO-PI-R).

**Summary of Results:** 347 (92,1%) of students participated. Of these, 215 (61,9%) students showed high neuroticism and 176 (46,7%) had low conscientiousness scores.

**Discussion and Conclusions:** High neuroticism is related to anxiety, depression and vulnerability, suggesting impairment of students mental health. Low conscientiousness is associated with personality aspects such as effort, self discipline and competence, which may be connected to difficulties on professional commitment. Results show the need of planning and implementing educational strategies on undergraduate level for early management of neuroticism and conscientiousness.

**Take-home Messages:** Personality assessment may help educators to plan strategies that meet the needs of incoming medical students' personal development at the beginning of their academic careers.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL06 (681)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Effects of breakfast consumption on the learning ability in medical students

#### AUTHOR(S):

- Natnicha Pongbangli, Medical Education Center Chiangrai Prachanukroh Hospital, Chiangrai, Thailand (Presenter)
- Piyaporn Sirijanchune, Medical Education Center Chiangrai Prachanukroh Hospital, Chiangrai, Thailand
- Sasivimon Jai-Aue, Medical Education Center Chiangrai Prachanukroh Hospital, Chiangrai, Thailand

#### ABSTRACT

**Background:** Previous studies have shown that consuming breakfast is associated with better cognitive performance compared to fasting. However, no studies regarding breakfast consumption have been done in medical students. The aim of the study was to evaluate the effects of breakfast consumption on the learning ability in medical students.

**Summary of Work:** We conducted questionnaires and visual analogue scales to evaluate the effects of breakfast consumption on the learning ability in medical students. The medical students were asked to compare 4 aspects of learning ability including concentration, happiness, alertness, and cognitive ability, comparing those who had breakfast to those who did not have breakfast. The sum of the score of 4 aspects (total score) was examined. The association between the learning ability score and frequency of breakfast consumption was investigated.

**Summary of Results:** 120 Medical students were enrolled into the study. The frequency of breakfast consumption was divided into 4 groups (group1; <1 day/week, group2; 1-3 days/week, group3; 4-6 days/week, group4; everyday). The prevalence of breakfast consumption in group 1 to group 4 was 16%, 39%, 25%, 20%, respectively. We demonstrated that medical students gave significantly higher score in all 4 aspects of learning ability when they had breakfast compared to that when they did not have breakfast, irrespective of their frequency of breakfast consumption. The medical students with more frequency of breakfast consumption had greater total scores if they had breakfast (group1;29.3±5.8, group2;30.2±4.7, group3;32.1±3.8, group4;33.1±3.1,  $r=0.308$ ,  $p=0.001$ ) and lower scores if they did not have breakfast, compared to those with less frequency of breakfast consumption (group1;21.2±8.6, group2;19.5±5.6, group3;18.4±5.1, group4;16.4±7.8,  $r=-0.229$ ,  $p=0.012$ ).

**Discussion and Conclusions:** The medical students in all 4 groups gave a significantly higher score of learning ability when they had breakfast compared to when they did not have breakfast. This indicated that all medical students had more satisfactory learning abilities if they had breakfast, regardless of their frequency of breakfast consumption. Breakfast consumption had a positive effect on the learning ability in medical students, Irrespective of their frequency of breakfast consumption.

**Take-home Messages:** Breakfast consumption should be encouraged in all medical students.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL07 (1404)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Self-esteem is Associated with Happiness but not Academic Performance in Thai Medical Students

#### AUTHOR(S):

- Phakdee Kaewpangchan, Nakornping Medical Education Center, Thailand (Presenter)
- Worachet Techarak, Nakornping Medical Education Center, Thailand
- Pornsuda Krittigamas, Nakornping Medical Education Center, Thailand

#### ABSTRACT

**Background:** Low self-esteem has been reported to deleteriously affects individual's mental health and performances. However, little evidence exists to describe the association of self-esteem with happiness and academic performance in Thai medical students.

**Summary of Work:** This study aimed to describe self-esteem, happiness, and academic achievement and examine their relationship among Thai medical students. This cross-sectional analytical study was conducted in 4th-6th year medical students at Nakornping Medical Education Center, Thailand in December 2018 to 15th January 2019. The students were asked to complete an online self-administered questionnaire including the 62-item Rubin's self-esteem scale, the Thai Happiness Indicators (THI-15). Academic performance was evaluated using student's grade point (GPA). The relationship between self-esteem, happiness, and GPA were analyzed using Pearson's correlation and linear regression.

**Summary of Results:** Among 55 medical students, 33(60%) were female, with an average $\pm$ SD age of 24.67 $\pm$ 3.66 years and 64% having normal body mass index (BMI). Almost three-thirds of the students came from families with excellent relationship, and 73% decided to study medicine on their own. Thirty-three students (64.7%) had a moderate level of self-esteem, while 44% had high level of happiness. Students' mean $\pm$ SD GPA was 3.23 $\pm$ 0.34 out of 4. There was significantly high correlation between total self-esteem scale and happiness score ( $r=0.88$ ,  $p\text{-value}<0.001$ ). However, both self-esteem, and happiness scores were not significantly associated with average grade. with regards to differences in gender, and governmental or private college students. In linear regression, total self-esteem scale and BMI were two factors that were significantly associated with happiness scores (Beta 0.35 (95%CI 0.30-0.40),  $p<0.001$ , and -0.35(-0.67,-0.02),  $p=0.038$ , respectively). Solely, academic year was significantly associated with GPA (Beta -0.18(-0.38,0.03),  $p=0.090$ , -0.33(-0.54,-0.12),  $p=0.003$ , for 5th and 6th year students respectively compared to the 4th year).

**Discussion and Conclusions:** Self-esteem was related to happiness but not academic performance. In order to enhance medical students, more interventional programs are recommended to strengthen the self-esteem.

**Take-home Messages:** The less self-esteem, the less happiness is found in medical students. Activities to enhance self-esteem needed to be integrated in medical courses curriculum to fulfill their happiness leading to success in medical profession.



## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL08 (95)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### The effect of positive thinking training on resilience and social adjustment of students

#### AUTHOR(S):

- Ghadir Pourbairamian, Department of Medical Education, School of Medicine, Iran University of Medical Sciences, Iran (Presenter)
- Ghobad Ramazani, Department of Medical Education, School of Medicine, Iran University of Medical Sciences, Iran

#### ABSTRACT

**Background:** The purpose of this study was to investigate the effect of positive thinking education on resilience and social adjustment in students of Golestan University of Medical Sciences.

**Summary of Work:** The method of this quasi-experimental study was pretest-posttest with two groups (one experimental group and one control group). This study is in the field of applied research. The instrument of the study was two questionnaires of the California social adjustment standard (with a reliability of 0.82) and the Conner and Davidson resiliency questionnaire with reliability (0.85). A multi-stage cluster randomized sampling method will be used for the students to test these tests. Of those 30 people with low social and social compatibility, 30 of them will be randomly assigned to two groups of test and evidence and for the control group, positive thinking education is given. The content of positive thinking training sessions was presented to the students during the course of eight 1-hour sessions. For data analysis at the data descriptive stage, SPSS software and in the data analysis step, methods Inferential statistics including appropriate statistical tests (Normality, independent t-test and covariance) were used.

**Summary of Results:** The findings of this study indicate that positive thinking teaching method is effective on increasing the level of resiliency and also student compatibility. The assumptions of this research were confirmed at 95% confidence level. ( $P > 0.001$ ).

**Discussion and Conclusions:** A cognitive perspective can be found in relation to the explanation of the effectiveness of positive thinking skills on resilience and social adjustment. The cognitive view emphasizes the usefulness of thoughts and cognition that guides the persons excitement and mood. Well, there are plans to increase student resilience and social adjustment. One of the effective ways of using it is the use of positive thinking education that can be presented as a workshop for students. Positive thinking skills can empower students to work hard. The constructive hope of having a goal, having an internal control source, is one of the features that, if acquired, can help rescuing the student, especially in the hard way.

**Take-home Messages:** The cognitive view emphasizes the usefulness of thoughts and cognition that guides the person's excitement and mood.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL09 (1871)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Conceptual analysis of Resourcefulness

#### AUTHOR(S):

- Mei Fei Hsieh, Chi Mei Medical Hospital, Taiwan (Presenter)

#### ABSTRACT

**Background:** This term was used as an intelligent strategy for The Three Kingdoms period in Chinese history. In the fifty-ninth chapter of the romance, it is said: I am also a Jew, not with four eyes and two mouths, but with many wisdom and ears. At present, although there is literature discussion about resourcefulness at home and abroad, most of them are historical elaboration and reliability and validity test of scale development, and there is no systematic conceptual analysis.

**Summary of Work:** Based on Walkers and Avants conceptual analysis steps, this paper conducts conceptual analysis of resourcefulness, elaborates on its defining features and attributes, lists typical cases, marginal cases, related cases and contrary cases, clarifies its concepts, and then confirms the preset factors and consequences of resourcefulness, and examines relevant empirical data.

**Summary of Results:** The above dictionary and related literature were used to construct (1) positive self-statement (1) use of positive self-expression; (2) problem solving; (3) gratification of delay; (4) perceived self-efficacy. Sufficient resourceful skills enable individuals to apply their internal and external resources in the face of environmental change and pressure, control the state of imbalance caused by internal and external changes, alleviate personal emotions, and timely solve problems to cope with pressure and difficulties. The follow-up is adaptive function, life satisfaction, perceived health, mental health, physical function and positive health practice.

**Discussion and Conclusions:** Studies have shown that resourceful training leads to increased use of both individual and social resourceful skills, which are considered important factors for intervention. But in the studies above mentioned intervention had training of ethnic group in the elderly and caregivers, may towards clinical violence or in the face of crisis events give had related training course, people in the face of environmental change and pressure, can apply the resources of different control because of the different change caused by unbalanced state, alleviate personal emotions, timely solve the problem, in response to stress and trouble.

**Take-home Messages:** We hope to use this conceptual analysis to increase the understanding of resourcefulness and provide the knowledge and methods of evaluation of resourcefulness, which can be applied to solve problems faced by people and lead a high-quality life.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL10 (2947)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring self-efficacy in computational medicine students

#### AUTHOR(S):

- Caroline Morton, Imperial College London, UK (Presenter)
- Jo Horsburgh, Imperial College London, UK

#### ABSTRACT

**Background:** Medical students and doctors are often faced with problems that are outside their existing experience and skillset. Understanding their own abilities to deal with these problems (called Self Efficacy) and developing strategies to deal with the problem should be encouraged. Students on the Computational Medicine module at Imperial College London learn to write computer code, something which is outside their current experience and skills. Given these challenges, we were interested in exploring the learning strategies that students develop and how these align with the concept of self-efficacy.

**Summary of Work:** In order to address this aim a qualitative interpretative approach was adopted and students were invited to take part in focus groups at the end of the course. The focus groups were audio recorded and transcribed before being independently analysed for themes by both researchers.

**Summary of Results:** Students found the course challenging and 'a steep learning curve', with many able to identify previously successfully learning strategies, such as cramming, which were not useful in learning to code. Many found this emotionally difficult but recognised that they developed tenacity and perseverance through identifying alternative ways to problem solve. Students identified some characteristics that made for a successful coder, including taking a logical approach, but even those who did not identify those characteristics in themselves were able to see how they developed these over time. They also recognised that the teachers did not always know the answer but found this reassuring.

**Discussion and Conclusions:** Generally students demonstrated self-efficacy in that they were able to solve the problems that they faced, could identify resources to do this and demonstrated flexibility and perseverance to achieve the end goal. Many students reported that developing new ways to learn, although difficult, was a useful experience.

**Take-home Messages:** Students can develop new learning strategies when faced with novel learning environments and subject matter, but need the right educational support and access to resources to do so. Faculty are key in signposting resources as well as encouraging students to make accurate attributions about their successes and failures.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL11 (1889)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Student Personality Types and Learning Outcome of Medical Students in Udonthani Medical School

#### AUTHOR(S):

- Inchaya Sansak, Udonthani Medical Education Center, Thailand (Presenter)
- Pitchayanan Kuwatjanakul, Udonthani Medical Education Center, Thailand

#### ABSTRACT

**Background:** Contemplative practices are recently supported by many studies that they help medical students relieve stress. Before the clinical year, medical students in Udonthani Medical School were invited to attend the contemplative class, where personality type identification using enneagram was a part of this class. We aimed to study about personality types and learning outcome of medical students.

**Summary of Work:** One to three years after attending the contemplative class, learning outcome by grade point average (GPA) was collected and evaluated. Student perceptions about the class were reflected.

**Summary of Results:** Fifty one medical students were enrolled in this study, 43/51 (86.3%) knew their personality types, with the distributions of 30.2%, 27.9%, 11.6%, 9.3%, 9.3%, 6.9%, 2.3% and 2.3% in type 9, type 7, type 4, type 5, type 2, type 8, type 3 and type 6, respectively. The GPA ranged from 2.10 to 3.84 with an average of 3.19 (SD=0.37). The average GPA were 3.26, 3.21, 3.20, 3.18, 3.17 and 3.10 in type 9, type 8, type 5, type 4, type 2 and type 3, respectively, with no statistical significance (p-value = 0.25). 53.5% of them thought that enneagram helps them achieve their learning outcome, while 32.6% did not agree and 13.9% were not sure, with the average GPA of 3.16, 3.26 and 2.94, respectively, with no statistical significance (p-value = 0.25). All students were satisfied with the class and agreed that learning enneagram helps them understand themselves and others, resulting in being better at dealing with their stress and working better with their colleagues.

**Discussion and Conclusions:** Type 9 personality type was the most frequent in our study. All the personality types have their unique characters both in positive or negative nature without inferiority among the types. The study showed that any types can achieve good learning outcome, although the sample size was too small to conclude and needs more research to confirm. All students agreed that the class was helpful.

**Take-home Messages:** All personality types have the potential to achieve desirable learning outcome. Contemplative class is helpful and should be implemented as it might improve other aspects of students to become better doctors.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL12 (2483)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Foundation Rounds - a Balint-style group for final year medical students aiming to increase preparedness for work as a doctor

#### AUTHOR(S):

- Laura Archer, Royal Wolverhampton NHS Trust, UK (Presenter)
- George Greenlees, Royal Wolverhampton NHS Trust, UK
- Helen Campbell, Birmingham Womens and Childrens NHS Foundation Trust, UK
- Isabelle Akinojo, Birmingham and Solihull Mental Health Trust, UK

#### ABSTRACT

**Background:** The General Medical Council advise UK medical schools to 'make emotional resilience training an integral part of the medical curriculum'. (Horsfall 2014) There is currently no universally accepted way to do this. There is evidence to suggest that medical students would value training in this area. (Houpy, Lee, Woodruff, Puncavage 2017). It is also our local experience that students are increasingly struggling with the emotional aspects of medicine. With this project we aim to create programme that improves final year medical student's ability to cope with stress and challenges. Balint groups are currently used in GP and Psychiatry training. A member of the group presents a case from their clinical experience. Discussion focuses on the emotional aspects of the case e.g. doctor-patient relationship.

**Summary of Work:** A group of ten final year medical students attended a one hour Balint-style session for 14 weeks. During these sessions students brought cases they had seen which had played on their mind. The discussion focused on the emotions evoked by the case and understanding the feelings and motivations of parties involved e.g. students, doctors and patients. It was facilitated by two teaching fellows who are near peers.

**Summary of Results:** At the beginning and end of the series of sessions students completed a fear of compassion scale. A control group who had the same placement but not these sessions also completed it. Full results awaited (project completion May 2019). Students will also be asked for feedback and responses regarding how well they felt prepared for beginning work as doctors.

**Discussion and Conclusions:** Awaited in full but will comment upon the following. Whether Balint-style sessions are valued by final year medical students when framed as something to help prepare for managing difficult situations as a doctor. Whether near-peer facilitation of Balint is preferred by students. Whether Balint-style sessions improve student's self-reported emotional preparedness (resilience) for starting work as a doctor.

**Take-home Messages:** Finalised after completion of project but focusing on if Balint-style sessions are a feasible way to improve self-reported emotional resilience and compassion amongst medical students.



## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL13 (2222)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### “Trait”-ing Students Uniquely: A Study on Personality Distribution and Preferred Learning Approaches

#### AUTHOR(S):

- Constance Scarlett Yim, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Hin Ching Chow, The Chinese University of Hong Kong, Hong Kong
- Isabel Hwang, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** Existing literature suggests benefits catering education for individual students personality types (Dunning, D. (2008); Melvin, J.(2017)). However, personality research in Hong Kong medical schools is still uncharted territory. This novel study is the first HK study collecting data of personality types of local medical students, linking personality types with preferences in learning approaches.

**Summary of Work:** 102 medical students (projected graduation year: 2022-2023) from CUHK were surveyed for Myers-Briggs personality types and evaluation of various teaching strategies and personal learning approaches. MBTI was determined by the 20-item Myers-Briggs Preference Questionnaire. Other survey questions used a variety of teaching examples to determine students learning preferences.

**Summary of Results:** The most common MBTI personality type was INFP (14.6%), followed closely by INFJ (12.6%). Comparison of other Myers-Briggs pairs: Introverts(66.6%)/Extroverts(32.4%); Sensing(56.3%)/Intuition(42.7%); Feeling (63.7%)/Thinking (36.3%); Judging(52.0%)/Perceiving(48.0%). No statistically significant personality differences between admission methods or gender were found. Extraversion predicted greater preference in interactive in-class learning modes, e.g. games or flipped classroom quizzes and collaborative activities. Sensing students were uncomfortable missing details whilst intuition students reported a preference of mindmaps in obtaining a big picture of lectures. Judging was a significantly better predictor of preference in individual studying than introversion, and reported higher levels of preparation and more collaborative participation in dissections.

**Discussion and Conclusions:** Linkages between personality components and learning preferences may shed light to areas of improvement to enhance students learning. E.g. Introverts found anatomy to be more challenging than extroverts. This is hypothesized to be linked to collaborative nature of dissection - introverts reported preferring to learn from specimens/models; extroverts enjoyed the collaborative process more during dissection. Faculty members may consider how personality affects the extent to which students learn from learning experiences and design a wider variety of resources catering to individuals need. Whilst individual differences were evident, there were also very universal feedback on many learning resources, e.g. clinical skills acquisition and practicals.

**Take-home Messages:** Personality plays a significant role in the preferred learning approaches in students: further development of the medical school curricula of Hong Kong may wish to consider personality-oriented learning opportunities. However, universality of preferences in learning approaches should also be considered when evaluating existing teaching methodologies.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL14 (2112)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### How Thai Medical Students spent their time

#### AUTHOR(S):

- Suparat Kanjanavanit, Nakornping Hospital Medical Center, Thailand (Presenter)
- Nantawan Su-Angka, Nakornping Hospital Medical Center, Thailand
- Koonkaow Roekworachai, Nakornping Hospital Medical Center, Thailand
- Pornsuda Krittigamas, Nakornping Hospital Medical Center, Thailand
- Worachet Taecharak, Nakornping Hospital Medical Center, Thailand

#### ABSTRACT

**Background:** Our previous survey found that about 80% of our students had a high to severe stress score level. Therefore, it may be useful to see how they manage their time to plan and design curriculum and activities. **Objective:** To describe 24-hour time management of 4th, 5th and 6th year medical students.

**Summary of Work:** A cross-sectional study in 4th, 5th and 6th medical students was carried out using time spent questionnaire including study and non-study related time used in 24 hours. We analyzed data presenting in median, inter-quartile range (IQR), Wilcoxon's ranksum test and Kruskal-Wallis test were used when appropriate.

**Summary of Results:** Twenty-two students (38.5%) completed the questionnaire, 72.7% was female. Overall time spent in classroom, self-study, homework, lesson-reviewed, ward and on duty time were 4(4), 2(2), 2(3), 1(2), 4(5) and 16(8) hours respectively. The only time significantly differed among medical years were ward and on duty time, the 6th year students claimed the highest hours. Meanwhile, time spent on other activities, family or private time were not significant. In non-study time, male significant spent time in playing online games. Bed time was 6(1.7) hours which was indifferent in sex or medical years.

**Discussion and Conclusions:** This is the first study of 24-hour time spent in Thai medical students. They spent two-third of their time in study-related activities, and only few hours to spend with their close ones or leisure. Time management has been reported to improve student performance, but it seems that our students need more time for work and life balancing. Further study of association with humanistic outcome such as quality of life, stress, and their study performance should be carried out. Medical students spent much more of their time in ward and on duty activities which increased by medical years, while there was lower proportion of time spent on non-patient or leisure activities.

**Take-home Messages:** Time spent in medical students mostly was in the area of patient care or studying related that resulted from our course syllabus. Balancing appropriately of our students' time with more extra-curriculum activities may be an issue to help producing humanized doctors.

## #4LL - Posters - Student: Emotional Intelligence/Learning styles

### 4LL15 (2810)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Diary for improvement of time management skill in medical student

#### AUTHOR(S):

- Kitiya Vutibenjarasamee, Obstetrics and Gynecology Department Khon Kaen Hospital Thailand, Thailand (Presenter)
- Maleechat Sripipattanakul, Obstetrics and Gynecology Department Khon Kaen Hospital Thailand, Thailand
- Thumwadee Tungsiriwattana, Obstetrics and Gynecology Department Khon Kaen Hospital Thailand, Thailand

#### ABSTRACT

**Background:** Time management skill accepted as an educational tool to help better organization of time and important key to success in academic performance. Time management is one of problem for medical student. The diary was designed to record the medical students' time management behavior.

**Summary of Work:** Fourteen of fourth year medical students attended at Obstetrics and Gynecology department were instructed to record the diary in 7 days two times before mid block and final evaluation. The activities were divided into daily activity, class activity, homework, writing report, self study, social media, meeting friends and family, exercise and sleep. The diary was explored and analyzed. Focus group for reflection and feedback activity were also performed at one week before mid block and final evaluation.

**Summary of Results:** The diary of fourteen fourth year medical students were completed. After focus group for reflection and feedback activities were performed, the medical students spent less time in social media use, median (IQR) 74 (47-120) versus 59 (34-81) minutes per day, spent more time for self study, median (IQR) 98 (85-145) versus 166 (72-214) minutes per day. After reflection and feedback process, the medical student concerned their quality of life by increase in sleeping time, median (IQR) 339 (274-390) versus 380 (360-385) minutes per day and exercise, median (IQR) 0 (0-60) versus 75 (0-120) minutes per week. After first focus group process, the problem in writing report was identified and discussion. Time to spend for writing report was shorter, median (IQR) 585 (390-690) versus 330 (90-780) minutes per week.

**Discussion and Conclusions:** The diary can explore the time management behavior of medical student. Using the diary with reflection and feedback process can guide the medical student in spending daily time more effectively to improve their quality of life and academic achievement.

**Take-home Messages:** The diary should be implemented to improve time management skill.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM01 (2555)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Quality Criteria for Core Medical Training - Impact on educational experience

#### AUTHOR(S):

- Warren Lynch, Joint Royal Colleges of Physicians Training Board, UK (Presenter)
- Miriam Armstrong, Joint Royal Colleges of Physicians Training Board, UK
- Mumtaz Patel, Joint Royal Colleges of Physicians Training Board, UK
- Alastair Miller, Joint Royal Colleges of Physicians Training Board, UK
- David Black, Joint Royal Colleges of Physicians Training Board, UK

#### ABSTRACT

**Background:** In 2015 the Joint Royal Colleges of Physicians Training Board (JRCPTB), acting on behalf of the three UK (UK) Royal Colleges of Physicians, launched a set of quality criteria designed to improve the quality of training and educational experience of Core Medical Trainees (CMTs) in the UK.<sup>1</sup> These were implemented by UK postgraduate schools of medicine in 2015. This study evaluates the impact of these criteria on the quality of training.

**Summary of Work:** The criteria were developed with key stakeholders from Core Medical Training (CMT) and were grouped into 4 domains which included: a. Structure of the programme b. Delivery and flexibility of the programme c. Supervision and other ongoing support available to trainees d. Communication with trainees. Questions related to each of the domains were developed and included in the annual GMC National Training Survey (NTS) as programme specific questions. The survey results were analysed over 2015-2018 to evaluate the effectiveness of the criteria.

**Summary of Results:** There were trainee-reported improvements from baseline (2015-2018) in at least 8 out of the 13 core criteria measured. These included improvements in attending: • Post-take ward rounds and handovers (B1), • Outpatient clinics to meet curriculum requirements (B2), • Learning events bleep-free (B3), • Simulation training (B4), • Curriculum-relevant and Practical Assessment of Clinical Examination Skills (PACES) teaching (B5), • Departmental Induction (C2), • Pre-Annual Review of Competence Progression (ARCP) appraisals and agreeing training plans before attempting Membership Royal College of Physicians (MRCP)(UK) exams (C6)

**Discussion and Conclusions:** The results demonstrate that a co-ordinated UK-wide approach to quality improvement, focused on a specific set of clearly-defined and measurable outcomes that galvanise trainer engagement, can lead to greater trainee satisfaction in a demanding area of medicine without significant additional resources.

**Take-home Messages:** • Implementation of the Core Medical Training Criteria have led to significant improvements in quality of training and educational experience over the last 3 years. • Where implemented, they can help improve trainee workload-to-learning balance, provide enhanced educational support and, together with critical learning opportunities, help better prepare trainees for the General Internal Medicine Registrar role.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM02 (1727)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

## The Reform of Post Graduate Medical Education in Italy Through Curriculum Design

### AUTHOR(S):

- **Antonella Lotti, University of Genoa, Italy (Presenter)**
- Giulia Bartalucci, St George's Hospital, UK
- Chiara Riforgiato, University of Genoa, Italy
- Stefano Sartini, University of Genoa, Italy
- Mario Amore, University of Genoa, Italy
- Rakesh Patel, University of Nottingham, UK

### ABSTRACT

**Background:** In Italy Post Graduate Medical Education is planned and implemented by Universities. According to an Italian law, each Post Graduate Medical School should give the opportunity to each resident to do a given number of technical procedures but there isn't any standard to design an educational plan with competences and learning outcomes, learning-teaching-assessment methods, human resources. Residents complain that they don't have clear objectives to reach, don't receive a formal education and don't have proper feedback. To address this need, the University of Genoa, School of Medicine, and Italian Society of Medical Education, designed and implemented a series of 3 workshops detailing a systematic approach to Postgraduate Medical Education curriculum design. The series was open to 7 pilot schools interested in create and verify a framework of curriculum design to propose afterwards to the Italian Ministry of Health and Ministry of University.

**Summary of Work:** 7 Italian Pilot schools (Postgraduate school of Nephrology, Occupational Medicine, Geriatrics, Pediatric Surgery, Hygiene and Preventive Medicine, Emergency Medicine, Nuclear Medicine) attended 3 workshop dedicated to UK General Medical Council 's Guidelines and Standards for PGME, curriculum design standards, teaching methods, learning methods, evaluation methods. Participants created a framework for Italian context and filled this framework.

**Summary of Results:** All the 7 Pilot schools defined the Mission and Vision, competences and learning outcomes (general and specific), identified Teaching-Learning-Assessment methods, identified the necessary human teaching resources (teachers, educational supervisors, clinical supervisors).

**Discussion and Conclusions:** This series of 3 workshops is well suited to introduce fundamental concepts in post graduate medical education curriculum design and inspire Faculty members to draw an agreed framework. Teaching and supervision by international experts facilitated the work. The Italian general framework for PGME is an adaptation of the UK framework to the Italian context.

**Take-home Messages:** A framework coherent with the curriculum design standards has been created in Italy by a group of 7 Pilot schools led a group of international and Italian experts in Medical Education. A series of 3 workshops dedicated to PGME was an important issue to agree on a framework and on essential factors which influence curriculum design.



## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM03 (3413)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Usefulness of Learning Methods in Post-Graduate Training

#### AUTHOR(S):

- Rishita Shah, East and North Hertfordshire NHS Trust, UK (Presenter)
- Charmilie Chandrakumar, Medway NHS Foundation Trust, UK
- Gayathri Bhaskaran, University Hospitals of North Midlands NHS Trust, UK

#### ABSTRACT

**Background:** The initial years of postgraduate training are an integral part of a doctor's career. A variety of educational methods are available to enhance clinical knowledge, practical skills and career development. Resources include teaching from senior peers, mandatory teaching consisting of lectures and practical skills organised by hospitals, online and external courses (often self-funded). Furthermore, all trainee doctors are allocated supervisors for clinical and career progression. UK doctors are required to complete a Foundation Year (FY) Programme after undergraduate training. This is followed by either core (CT) or run-through training (ST); successful completion of which is required to enter higher training in the chosen speciality. Aim: To assess which resources trainees find useful in learning clinical theory, practical skills and for further career progression.

**Summary of Work:** Questionnaires were sent to junior trainees across the UK. The usefulness of various learning methods from hospital teaching, external courses, assigned supervisors, informal peer teaching and online resources were demonstrated by using Likert scales. These were further explored by open-ended questions to understand the rationale behind the scoring of the methods. Trainee demographics were also surveyed.

**Summary of Results:** 60 trainees with an array of speciality interests (42 FYs, 18 CT/STs; 30 females, 30 males) completed the questionnaire. Informal peer teaching (85.6%), online resources (77.4%) and external courses (72.8%) were popular methods of learning clinical theory. Similarly, for practical skills, informal peer teaching (89.7%) and external courses (76.9%) along with assigned supervisors (68.2%) were favoured choices. For career progression, trainees found supervisors (78.4%), peers (77.4%) and online resources (75.9%) helpful. Hospital mandatory training (57.4%) was found to be the least useful learning methods in all three aspects.

**Discussion and Conclusions:** Senior colleagues highly valued across all three assessed criteria: Doctors appreciate their approachability usually in a one-to-one setting and find the information, feedback or advice delivered by senior peers to be of direct relevance. On the contrary, doctors felt that mandatory hospital teaching was often variable in quality within trusts and specialities, and provides little hands on experience, which trainees perceive to be key in gaining clinical and practical competence.

**Take-home Messages:** Future efforts should improve on existing favourable learning methods to enhance post-graduate training.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MMo4 (834)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Making a Difference - experience of using an internal survey for junior doctors in a UK teaching hospital

#### AUTHOR(S):

- Joanne Kirtley, University Hospitals of Leicester, UK (Presenter)
- Luke Ruffle, University Hospitals of Leicester, UK
- Sue Carr, University Hospitals of Leicester, UK

#### ABSTRACT

**Background:** Ensuring high quality education provision is essential for recruitment and retention of junior doctors. We adopted the validated 'SPEED'<sup>1</sup> survey in a large UK teaching hospital in 2016, to provide detailed and real-time feedback on the quality of Postgraduate Medical education. Data from this survey was used as a tool to identify emerging areas of concern and as an adjunct to national surveys and quality processes.

**Summary of Work:** The bi-annual survey, delivered using an on-line software package, has collected anonymised data from more than 5,000 junior doctors over a 2 year period. Survey data is demographically analysed to include specialty and grade specific information. Summaries of outcomes are shared with Clinical Directors and hospital management as well as junior doctors.

**Summary of Results:** Over 2,000 surveys have been completed (response rate 44.1%). By providing Specialty specific data which is compared to overall survey outcomes, the survey acts as a useful diagnostic tool to identify positive and negative outliers. Trends reports are also generated to provide 'early warning' alerts as well as giving positive feedback where improvements have been made. Free text comments are analysed for recurrent and emerging themes to inform future work streams. The hospital has a formal process for monitoring strategic, clinical and financial performance; our education survey outcomes are now included in this process.

**Discussion and Conclusions:** The survey response rate is higher than average for internal surveys (44.1% compared to average 30-40%). Junior doctors have suggested that the brevity of the survey and ease of access has encouraged completion. The inclusion of educational data as part of the hospital performance process ensures that education quality is considered at board level alongside finance and clinical performance.

**Take-home Messages:** Local surveys provide valuable data to organisations and the opportunity to give dynamic feedback and respond to challenges in a timely manner. Hospital management boards will include educational data if presented in a clear, concise format.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM05 (1021)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Junior Doctors' Experiences of their Medical Internship: Compelling evidence for a rigorous introductory service

#### AUTHOR(S):

- Yvonne Carlsson, Sahlgrenska Academy, Sahlgrenska University Hospital, Sweden (Presenter)
- Matilda Liljedahl, Sahlgrenska Academy, Sahlgrenska University Hospital, Sweden
- Stefan Bergman, Sahlgrenska Academy, Sweden
- Anna Nilsdotter, Sahlgrenska University Hospital, Sweden

#### ABSTRACT

**Background:** There is evidence that the transition from medical school to medical practice is stressful. In several countries, a postgraduate internship bridges the gap between medical school and residency, introducing the doctor-to-be to clinical work by allowing the intern to practice and develop knowledge and experiences learnt in medical school. Although there is research exploring experiences of the medical internship, there is a dearth of research from a Scandinavian context.

**Summary of Work:** This paper reports on research aimed to explore Swedish medical interns' experiences of their internship. A qualitative design was adopted since human experiences were in focus. Using the approach of qualitative description, data was collected through twelve individual, in-depth interviews, followed by content analysis.

**Summary of Results:** In summary, our findings suggest that being a medical intern implies feeling increasingly comfortable in the role as a doctor (Finding one's feet) through taking responsibility and working as a doctor by way of necessary help and assistance (A doctor with support). Additionally, the interns experienced the internship as an opportunity to practice clinical work in various settings (A healthcare sightseeing). Although appreciating the concept of the internship as such, it tired the interns to repeatedly be new at work and they felt stuck in predetermined and rigid framework (Stuck in the zoo).

**Discussion and Conclusions:** The internship provided a safe environment to learn and start one's career as a clinician. Interestingly, reports on experiences of heavy stress and mental exhaustion were absent in our data. Thus, this kind of medical internship, with well-defined support in combination with trusted responsibility for the patient, fulfils its purpose of being a justifiable introduction to clinical work. Moreover, it is essential that patient-related tasks are not merely seen as work, but as authentic learning opportunities to be designed as such.

**Take-home Messages:** \*Ensure a thorough introductory service to mind the gap between medical school and residency; \*Trust the intern with responsibility in order to drive learning while simultaneously providing sufficient support; \*Acknowledge work as an essential part of learning and abandon the work-vs-learning-paradox

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MMo6 (501)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A study of the first-year interns' satisfaction in training experience at Udon Thani Hospital

#### AUTHOR(S):

- Titima Nasomtrug, Udon Thani Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Medical students in Thailand are required to complete three-year internship as part of their postgraduate. Udon Thani Hospital(UTH) is a training hospitals that take the first-year interns to complete their internship in six departments;Medicine,Surgery,Obstetric and gynecology(OB-GYN), Orthopedics,Pediatrics,and Emergency medicine(EM). The first-year internship is the most challenging period of the students to achieve, the host hospital should ensure its training arrangement will bring the best outcomes for interns and organization. This study aims to study the first-year interns'satisfaction at UTH regarding their training experience in order to develop the internship training program.

**Summary of Work:** A questionnaire was used for data collection for the rating of interns' satisfactory degrees toward their training experience at six departments. The open-ended questions were designed to collect the opinion about working,medical teachers,colleagues,academic activities(AA),and welfare.

**Summary of Results:** UTH has 1,022 beds,115,590 outpatients/month,30,690 inpatients/month,168 medical specialists,37 first-year interns from 58 available positions. The satisfactory scores for Medicine,Surgery,Orthopedics,Pediatrics,OB-GYN,and EM were 3.18,1.96,3.90,4.72,3.29,and 2.67respectively. Opinions are made by interns as following. Excessive workloads and duties are in Medicine and Surgery. Supervision provided by staffs from Surgery,EM,Medicine,and OB-GYN are inadequate;and less friendly working relationship is found between EM and Surgery staffs. They feel that the Medicine staffs are less approachable for consultation. Some have decrease opportunity practice medical procedures. AA are adequately but less attending by interns due to busy schedules. The salary is not enough comparing to the workloads. Good accommodation is provided but maintaining service needs improvement.

**Discussion and Conclusions:** Low scores are associated with less satisfaction in excessive workloads, inadequate supervision, unwell relationship among the staff, and AA absence. Lowest satisfaction scores are for Surgery, EM, Medicine, and OB-GYN. Satisfaction of the interns is associated with workloads, availability of staff supervision, healthy relationship among the staffs, frequency of academic activities attending, adequate payment, and quality facility services.

**Take-home Messages:** Good balance of workloads, adequate and coordinate-staff, regular participation of academic activities, appropriate payment, and adequate medical procedural training are important for the interns' satisfaction.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM07 (1595)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What do doctors value from generic teaching in the UK Foundation Programme? A qualitative analysis of feedback

#### AUTHOR(S):

- Eleanor Boddy, Health Education East of England, UK (Presenter)
- Alexandra Rowland, Health Education East of England, UK
- Helen Johnson, Health Education East of England, UK

#### ABSTRACT

**Background:** The UK Foundation Programme provides a curriculum-driven, structured approach to development of newly qualified doctors. Foundation Doctors are required to attend a generic teaching programme that should be mapped to the curriculum, but with content and structure set locally by Trusts. There is limited understanding from education literature of what doctors value in generic teaching.

**Summary of Work:** We collated feedback for generic teaching at six Trusts in the East of England Foundation School over the 2017/18 academic year. This qualitative data was thematically analysed using Nvivo software to establish feedback themes pertaining to the highest and lowest rated sessions.

**Summary of Results:** A wide variety of topics were reviewed, with teaching on clinical skills or acutely unwell patients consistently receiving higher ratings. These topics were felt to be “useful”, the educator “interesting”, and the teaching style “engaging” or “practical”. Medico-legal and management topics consistently received lower ratings, however, “useful” remained a common theme. Occasionally doctors specified reasons for lower ratings, but written feedback was sparse when compared to highly rated teaching.

**Discussion and Conclusions:** Foundation Doctors are consistent in their description of teaching that they rate highly, and value being taught practical skills or knowledge that they can use in an acute setting. When teaching is poorly rated, lack of richness in feedback makes it difficult for Trusts to understand how they can improve programmes. Is there a way to reconcile providing teaching that doctors prefer, whilst exposing them to curriculum requirements? We propose exploring this using a series of focus groups to gain greater depth of understanding of what Foundation Doctors mean when they use non-specific words in feedback, and why they prefer skills-based teaching. This knowledge of what doctors value will help Trusts to tailor generic teaching programmes to meet their educational needs.

**Take-home Messages:** Foundation Doctors prefer teaching on certain aspects of the curriculum that they perceive to be useful or practical. There is a national requirement to educate doctors on all aspects of the curriculum. We need to rise to the challenge of ensuring that mandatory teaching is valued by newly qualified doctors.



## #4MM - Posters - Postgraduate: Junior Doctors

### 4MMo8 (244)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Implementation of a simulation-based regional practical skills course for foundation trainee doctors

#### AUTHOR(S):

- Kathrine Redington, Maidstone & Tunbridge Wells NHS Trust, UK (Presenter)
- Angela McCallum, Maidstone & Tunbridge Wells NHS Trust, UK
- Natalie Shields, Maidstone & Tunbridge Wells NHS Trust, UK

#### ABSTRACT

**Background:** As former foundation trainees we found that exposure to practical procedures varied considerably between rotations and hospitals. Consequently, we identified a need for additional training in procedural skills for foundation trainees, which may be best performed in a simulation-based environment.

**Summary of Work:** We organised and taught on a regional practical skills course for foundation doctors. Our aim was to provide theory, hands-on teaching and allow exposure to a variety of skills. We advertised to regional post-graduate education centres in Kent, Surrey and Sussex in the south east of England. We offered 20 candidates small group workshops using simulation trainers on airway management, non-invasive ventilation, ascitic tap and drains, arterial and central line insertion, joint aspiration, fracture management, lumbar puncture, suturing, plus medical and surgical chest drains. All were led by specialist trainees we'd recruited over a 2-day weekend course in November 2018. Participants were asked to rate the programme in a structured questionnaire.

**Summary of Results:** 100% of attendees found that the content was relevant, the course was useful, enjoyable, delivered at an appropriate level with enough time allowed to practice each skill and ask questions. All workshops received scores of good to excellent, with 90% scoring 4 or 5 out of 5. Additional comments thanked us for excellent, expert, hands-on teaching and an interactive, rewarding course and remarked that they now felt more confident clinically following the course. All participants would also recommend our course to a colleague.

**Discussion and Conclusions:** Given the demand for the course as it was significantly oversubscribed, plus the high participant-based scoring of the teaching provided, there is a clear desire for foundation trainees to have more practical skills teaching. We have since been asked to also provide a similar session for medical registrars highlighting the need for further training opportunities. As such, it could be incorporated into their local teaching programmes or also undertaken by other hospitals with simulation departments.

**Take-home Messages:** Additional practical skills teaching is required for foundation trainees, which can be achieved using simulation training.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM09 (3195)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A Survey of Imposter Phenomena in UK Foundation Year 1 Doctors

#### AUTHOR(S):

- Sara Warraich, PGME, Great Ormond Street Hospital, UK (Presenter)
- Esther Park, Oxford University Hospitals, UK
- Denis OLeary, University of Oxford, UK

#### ABSTRACT

**Background:** Described in 1978 by Clance and Imes (1), thoughts of being an impostor came to our notice while teaching medical students. Impostor phenomena (IP) often led students to isolate themselves from peer learning opportunities and from formal learning supports offered by the University. We became concerned that distressing IP may be present in newly qualified doctors who many have unmet learning support needs in this respect.

**Summary of Work:** Our study's primary aim is to describe the frequency of IP in newly qualified doctors enrolled in a training programme. A secondary aim is to explore the relationship, if any, of self-reported changes in self-efficacy (SE) and IP. **Methods:** All foundation year 1 doctors will be invited to complete the Clance Impostor Phenomenon Scale (2) (pending copyright permissions). Baseline data will include age and gender and an additional question on changes to self-efficacy over time. Participants' informed consent will be documented. The study has been approved as evaluation by the hospital's ethics and research committee.

**Summary of Results:** We will report the range, mean etc. of CIPS scores and IP categories for whole group and by gender. These results will be compared with published findings from other cohorts as applicable. An additional analysis.

**Discussion and Conclusions:** The implications of the findings for establishing the presence of IP in newly qualified doctors for the first time in a UK cohort will be discussed. The conclusions will focus on the extent of any required additional learning supports and will be of particular interest to clinical and educational supervisors and post-graduate training programme leads.

**Take-home Messages:** Although discussed widely, the frequency and severity of IP phenomena in young UK doctors has not been reported. This study addresses this issue and will identify the need for any relevant learning supports. References will be provided on the poster.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM10 (2077)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Influence of Role Models on First-Year Medical Students' Perceptions of Professionalism

#### AUTHOR(S):

- Jariya Jiranukool, Faculty of Medicine, Mahasarakham University, Thailand (Presenter)
- Peem Eiamprapai, Faculty of Medicine, Mahasarakham University, Thailand
- Sujittra Somsanguan, Faculty of Medicine, Mahasarakham University, Thailand

#### ABSTRACT

**Background:** Many medical schools have been concerning about professional development for medical students. Bringing professionalism into classroom such as lecture and small group discussion might not be enough. Observation is one of the teachings that clinical teacher serves as role model for students to learn the knowledge, attitudes, and behaviors. This study aimed to evaluate the influence of learning through observation on first-year medical students' perceptions of professionalism.

**Summary of Work:** This quasi-experimental study was conducted in "Learning how to learn" class, which is the compulsory subject in first-year medical curriculum. The participants were 65 first-year medical students. After introductory lectures on professionalism, all participants were instructed to complete 32-item self-assessed Medical Professionalism Scale (MPS). MPS consists of 6 elements including altruism, accountability, excellence, duty, honour and integrity, and respect for others. Then, participants were divided into 17 groups to observe their medical education advisor (clinical teacher) in clinical practice of variable settings. The four-hour learning activity consisted of 1) observation of professional behavior 2) facilitated group discussion 3) critical reflection. Two weeks later, participants completed MPS again. A paired t-test was used to compare MPS scores before and after intervention.

**Summary of Results:** Most of participants were female (63.1%), aged 18-19 (mean 18.5). There was a significant difference in MPS scores for pre-observation ( $M=161.7$ ,  $SD=11.58$ ) and post-observation ( $M=164.7$ ,  $SD=12.21$ ) conditions;  $t(64)=2.64$ ,  $p=0.01$ . However, the significant differences were only for three of six elements: accountability (mean change = 0.54,  $SD=2.0$ ,  $p=0.03$ ), excellence (mean change = 0.59,  $SD=2.3$ ,  $p=0.04$ ), and duty (mean change = 0.91,  $SD=2.1$ ,  $p=0.001$ ).

**Discussion and Conclusions:** These results suggest that learning medical professionalism through observation (role modeling) influences the perceptions of professionalism in first-year students. In agreement with previous study, students identified role modeling as important aspect of professionalism. Not all elements of professionalism were influenced. We concluded that first-year students were aware of their accountability, excellence, and duty through role modeling; however, they were not yet aware of altruism, honour and integrity, and respect for others as they lacked of patient care experience.

**Take-home Messages:** Teaching professionalism can be provided since the beginning of medical studies.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM11 (1166)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Students' Perceptions of Physicians as the Role Model: Insights From an Intensive Shadowing Experience

#### AUTHOR(S):

- Chung-Yi Cheng, Division of Nephrology, Department of Internal Medicine, Taipei Medical University, WanFang Hospital, Taiwan (Presenter)
- Wen-Cheng Huang, Department of Emergency Medicine, Taipei Medical University Wan Fang Hospital, Taiwan
- Che-Wei Lin, Clinical Skill Center, Taipei Medical University Wan Fang Hospital, Taiwan
- Yuh-Moe Sue, Department of Internal Medicine, Taipei Medical University Wan Fang Hospital, Taiwan
- Fat-Moon Suk, Department of Internal Medicine, Taipei Medical University Wan Fang Hospital, Taiwan

#### ABSTRACT

**Background:** An innovative Role Modelling Learning curriculum is designed to supplement to the didactic lecture for medical students during their clinical rotation. The learning objective is to facilitate students learning and assist in the development of professional identity through self-reflection after an intensive shadowing experience.

**Summary of Work:** A team-based shadowing experience entitled, Role Modelling Learning, is devised to recruit students in their clinical rotations to participate in the course. Ten physicians from various specialities are invited to share their daily activities with the participating students. Two students per group are randomly assigned to a physician and follow his/her clinical activities for a day. Intensive shadowing experience allows students to observe physicians clinical competence, teaching skills and personal qualities. Students are asked to share their perception upon completion of shadowing experience. The remaining of the class composed the audience. Overall, 68 students attended the class each year.

**Summary of Results:** The "Role Modelling Learning" program has been operating in three consecutive years in our hospital. Ninety-six per cent of students showed their great appreciation to attend the class. Students recognize communication skills as one of the important characteristics of a role model. This finding is in line with existing evidence<sup>1,2</sup>. Professionalism and patient care are also indicated as the important characteristics of role models. Despite the importance of teaching and learning as well as guiding personal and professional development, these attributes are considered to be least important by our students.

**Discussion and Conclusions:** Role modelling has been highlighted as an essential component of medical education. However, it remains elusive, as there are no standards and the relative strengths of role modelling when compared with more traditional approaches to teaching is not fully understood. Our innovative program facilitates learning from role models through observation and reflection. By analysis students feedbacks, we have gained insights into students perception of clinicians as a role model.

**Take-home Messages:** The integration of direct observation and reflection in the shadowing experience is the key element to succeed in our "Role Modelling Learning" program. A further qualitative designed study may be needed to validate the outcomes.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM12 (48)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A comparison of knowledge, skills and attitudes in post graduate psychiatric training for 1st internship physicians in Tak province

#### AUTHOR(S):

- Chalorwat Inpa, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand (Presenter)
- Chakrapong Puwaysa, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand
- Natakorn Lathalapakul, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand
- Sudarat Samchimchom, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Recently, psychiatric problem and diseases is upward trend in Thailand but the psychiatrists are still insufficient. Thus general practitioners, who are in the primary care in the community & receive the program of post graduate psychiatric training for 1st year internship (PGPT), may be responsible for treating psychiatric patients in their hospital. This research has objective to compare the knowledge, skills, attitudes, Health Accessibility of psychiatric patients (proportion of diagnosis and drug use of psychiatric patients) in two group between PGPT and non-PGPT in second year general practitioners in primary care setting in Tak province.

**Summary of Work:** An analytical cross-sectional study was conducted to compare two sample groups. Sample size was 138 second year general practitioner who practiced in secondary medical care of Tak province from 2012 to 2016. Data were collected by online questionnaire and hospital database. These data were subsequently interpreted by descriptive statistic and chi-Square test with computer program.

**Summary of Results:** A total of 42 questionnaires followed criteria were returned and reported that two groups were not different in psychiatric knowledge, skills and attitudes, whereas a total of 60 hospital database followed criteria were search and found that the health accessibility (diagnosis of psychiatric disorder) in PGPT group which were higher statistically significant at 0.05.

**Discussion and Conclusions:** Post graduate psychiatric training (PGPT) that enhanced patient to access the medical and community psychiatric service is the important program.

**Take-home Messages:** Thus a Psychiatric and public health policy should promote and provide training program before general physicians work in primary medical care.



## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM13 (2083)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### After-work Meetings - Effect on Social Relations and Cohesion as well as Professional Learning among Junior Doctors

#### AUTHOR(S):

- **Soginy Antony, Hospital of Southern Jutland, Denmark (Presenter)**
- Sofie Louise Hjorth Boye, Hospital of Southern Jutland, Denmark
- Bjarke Kryger, Hospital of Southern Jutland, Denmark
- Bettina Ravnborg Thude, Hospital of Southern Jutland, Denmark

#### ABSTRACT

**Background:** Social relations constitute an important role regarding learning and learning plays a significant role throughout medical practice. After-work meetings attempt to create social relations and are held monthly with presentations from two different departments and present an opportunity to network. This research paper aims to investigate the effect of after-work meetings in relation to strengthening social relations and cohesion between junior doctors at Hospital of Southern Jutland, and their contribution to professional learning.

**Summary of Work:** The study was conducted as an intervention study with questionnaires handed out to the attendees after every meeting. The questionnaire focuses on social relations, loneliness, professional learning, and an evaluation of each meeting. Additionally, a focus group interview is conducted with four out of 25 junior doctors from different departments based on select inclusion criteria.

**Summary of Results:** According to the questionnaires, preliminary results indicate a higher degree of loneliness at work, compared to outside of work. Questionnaires suggest a great interest in meeting with people from their own departments, but less affiliation with doctors from other departments. Attendees experience social and learning benefits from participating in the meetings, and all attendees would gladly recommend after-work meetings to colleagues. The interview supports these answers. Furthermore, there is a strong agreement among the interviewed junior doctors that social relations contribute to cohesion, job satisfaction, and learning.

**Discussion and Conclusions:** Literature describes the importance of social relations in relation to job satisfaction and learning. This research indicates that there is great interest in getting to know colleagues, especially within one's own department. Yet, well-known faces in other departments contribute to increased contact with and learning from each other. All participants would recommend the after-work meeting to colleagues, citing accessibility as a major factor for participation. To increase benefit from after-work meetings, the interviewees suggest higher-level learning with workshops or cases that can be related to everyday work. In conclusion, the preliminary results suggest increased social relations and cohesion between junior doctors and contribute to professional learning.

**Take-home Messages:** After-work meetings can equally contribute to cohesion and professional learning.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM14 (2896)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Use of an In-house Survey in a London Teaching Hospital

#### AUTHOR(S):

- Leila Taheri, Chelsea & Westminster Hospital, UK (Presenter)
- Leyla Osman, Chelsea and Westminster NHS Foundation Trust, UK
- Orhan Orhan, Chelsea and Westminster NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Junior doctors (JD) are highly valuable members of the medical workforce. At a time when JD morale is low (Fmlm.ac.uk, 2019), it is of great importance to ensure their rotations are meeting their training needs and providing a safe working environment. All UK doctors in training are sent an annual national training survey from the General Medical Council (GMC). This is a compulsory survey which is used to ensure that high quality and safe training is being delivered (Gmc-uk.org, 2019). However as JD rotate frequently, they often miss the changes that have been implemented.

**Summary of Work:** This trust has recognised the significance of doctors seeing improvements from their feedback whilst they are in post. An annual in-house survey aims to deliver real time responses based on the views of JD. This survey is sent to all JD, with questions based on the key points from the GMC survey around topics that are of particular importance to the Postgraduate Department (PGD). We have further modified and streamlined the survey making it less time consuming for doctors.

**Summary of Results:** In total we had 90 responses, covering all grades of JD. There were responses from all but two specialities within the hospital. This represented a third of JD within the hospital, with the survey being sent to 265 JD. The PGD analysed the results and have provided each speciality with a report highlighting the key points from the results and suggested areas for improvement.

**Discussion and Conclusions:** We are aware that JD are asked to complete large numbers of surveys, but feel this survey is beneficial to their current working lives. It not only allows changes to be made whilst still in post, but also gives feedback to departments with small numbers of trainees who would not normally get feedback from the GMC survey. There is work still to be done to maximise JD response. This survey will continue to be modified to meet the current areas for development.

**Take-home Messages:** Our in-house survey provides an opportunity to collate feedback from JD and deliver improvements that the current cohort of doctors can benefit from.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM15 (529)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Implementation of a Formalised Medical Handover Structure and its Impact as a Learning Tool for Junior Doctors

#### AUTHOR(S):

- Junaïd Aamir, East Lancashire NHS Hospitals Trust, UK (Presenter)
- Suzanne Gawne, East Lancashire NHS Hospitals Trust, UK
- Damien Lynch, East Lancashire NHS Hospitals Trust, UK

#### ABSTRACT

**Background:** The high-quality handover of large numbers of patients is essential in helping deliver effective care within any hospital. Current literature encourages hospitals to adopt formalised handover structures resulting in better shift-to shift handovers in order to enhance patient safety and team working. Alongside this, it has been identified that shift handovers can be utilised as a learning tool for the team.

**Summary of Work:** The medical handover at East Lancashire NHS Hospitals Trust (ELHT) was overhauled and a formalised structure was implemented. A handover proforma was introduced containing information about acutely ill patients who may require attention. Furthermore, any incidents or near-misses that may have occurred during the shift are identified and a “lessons learnt” discussion allows the team to reflect upon experiences of the shift and discuss cases in a supportive environment facilitated by a senior supervisor.

**Summary of Results:** The General Medical Council (GMC) national training survey was used as an outcome measure alongside feedback from forums and external monitoring visits. The GMC survey displayed a year-on-year increase in the satisfaction of trainees following the introduction of the formalised handover. The improvement in satisfaction was in a number of domains, particularly, “handover”, “educational supervision”, “levels of feedback” and “supportive environment”. Moreover, Health Education England Northwest (HEENW) visiting reports have produced positive feedback about medical handovers regarding levels of education, support and education governance. Our Trust has been approached by trainees at 5 other Trusts in the North West to seek permission to replicate our processes.

**Discussion and Conclusions:** The introduction of a structured handover has helped improve the quality of care delivered by the medical team. Furthermore, the structured handover has been invaluable in ELHT in improving trainee satisfaction in a number of domains. Through the use of case-based discussion and active reflection, it has been shown that the ELHT medical handover is an effective learning tool for junior doctors.

**Take-home Messages:** Formalised and structured handovers are essential in the effective running of a hospital. High quality handovers have a direct positive impact on patient safety. Shift handovers can be extremely beneficial learning environments for trainees.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM16 (1996)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Developing and implementing a strategy for postgraduate medical education

#### AUTHOR(S):

- Thomas Hertel, Odense University Hospital, Denmark (Presenter)
- Sune Laugesen, Odense University Hospital, Denmark
- Christine Dichmann, Odense University Hos, Denmark
- Mette Worsøe, Odense University Hospital, Denmark
- Lasse Bugge, Odense University Hospital, Denmark
- Michael Dall, Odense University Hospital, Denmark

#### ABSTRACT

**Background:** Postgraduate medical education in a large university hospital may often have different outputs and outcome in different departments and thus medical education of variable quality. Furthermore, a leadership focus on education is essential in a university hospital. Our hospital has an ambition of excellent medical education in order to provide the best possible care for the patient. In order to streamline medical education in our hospital among medical doctors training to become specialists we therefore developed a strategy for medical education.

**Summary of Work:** We involved 10 doctors in different charges and departments in our university hospital including a chief medical officer in order to secure a broad base. The process also included three outside medical educators and user involvement (workshop for 80 educationally involved doctors). The outcome was a strategy with a focus on four main areas: Leadership in medical education, quality in education, management of education and lifelong learning. Follow-up was done using interviews with every department heads, the medical director for education and junior doctors preceded by a questionnaire.

**Summary of Results:** Our preliminary results show that the strategy was well received among leaders and directors for medical education as well as junior doctors. A medical director for education said that the strategy gave him legitimacy in his work with medical education. Follow-up on targets for our 41 departments for 2018 and 2019 showed full achievement of 2018 targets in 55 % of departments and partially in 37 % of departments. The 2019 targets were already by the end of 2018 achieved fully in 54% of the departments and partially in 34 % of the departments.

**Discussion and Conclusions:** The development of a strategy for medical education has given our educational community at our hospital a better tool for working with medical education and has also increased awareness and legitimacy of our educational obligation.

**Take-home Messages:** In order to strengthen medical education in a large university hospital, development of a strategy for postgraduate medical education is a valuable tool. Follow-up on targets set by the strategy is essential.

## #4MM - Posters - Postgraduate: Junior Doctors

### 4MM17 (3179)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Social self-perception as a determining factor in interpersonal relationships and professional ethics in resident physicians

#### AUTHOR(S):

- Jessica Pelaez Jaquez, Universidad Autónoma de Chihuahua, Mexico (Presenter)
- Haydee Parra Acosta, Universidad Autónoma de Chihuahua, Mexico
- Jose Lopez Loya, CIFE, Mexico
- Jorge Alonso Garay Ortega, Universidad Autónoma de Chihuahua, Mexico

#### ABSTRACT

**Background:** Resident doctors need to develop a professional identity, this refers to the way of being and relating in professional contexts (Goldie 2012). Social identity or self-perception, defined as the opinion that people have about themselves, influences professional performance (Massenzana 2017).

**Summary of Work:** Multicentric cross-sectional study. 212 residents participated from different specialties of Schools and Faculties of Medicine associated with AMFEM. A questionnaire was applied and evaluated three complex variables, through 28 simple variables. The instrument was previously validated by two techniques: 1) Expert Judgment, sent to 20 researchers with experience in the subject. 2) It was applied to a pilot group of 30 resident physicians to analyze its internal consistency, obtaining a Crombachs Alpha = 0.94. The processing and analysis of the information was carried out through different statistical analyzes: univariate, bivariate and multivariate, using descriptive and inferential statistics, with a level of significance of  $p < 0.05$ .

**Summary of Results:** In social self-perception, resident physicians consider that in hospitals they often have opportunities to interact with patients and colleagues (4.68). However, they state that sometimes cheating is a problem in their hospitals (2.74) and that it is disappointing to study in their hospitals, because they do not meet their expectations (2.27). Regarding interpersonal relationships, it was observed that residents almost always identify that there is respect for the ideas of others (5.25) as well as learning to relate with patients and colleagues (5.23). Regarding Professional Ethics, it was observed that resident doctors consider that they inform patients and their families more about the procedures to be performed (5.72), treat their patients with respect and patience (5.59), respect their decisions (5.55). However, to a lesser extent they consider it acceptable to lie to them (0.33). Which refers to the manifestation of an acceptable professional ethics.

**Discussion and Conclusions:** Social self-perception has a significant positive correlation with interpersonal relationships and professional ethics. Simple variables such as assertive and adequate communication were related to professional ethics.

**Take-home Messages:** Social self-perception significantly affects interpersonal relationships and professional ethics.



## #4NN Meet & Ask the ASPIRE Winners

**Date of Clinic:** Monday, 26 August 2019

**Time of Clinic:** 1400-1530

**Location of Clinic:** Suite E, Level 0

### ASPIRE Team:

- Marko Zdravkovic, outgoing ASPIRE Academy Chair
- Harm Peters, incoming ASPIRE Academy Chair
- Representatives of ASPIRE Award Winning Schools

The ASPIRE initiative, now in its ninth year, recognises excellence in education in a medical, dental or veterinary school in areas including Assessment, Curriculum Development, Faculty Development, Simulation, Social Accountability, Student Engagement, and – the latest addition - Inspirational Themes. Criteria against which to judge excellence have been compiled by international groups of experts in each of the above areas. The criteria, which are on the [www.aspire-to-excellence.org](http://www.aspire-to-excellence.org) website, help schools to benchmark themselves against the criteria necessary for ASPIRE recognition. If your School is considering applying for an ASPIRE award but is unsure of the process or would like information from successful schools about what ASPIRE recognition has meant for them, come along to this “Meet the ASPIRE winners” session to find out more.



## #5A Symposium

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Hall A, Level 2

### Transition from Surgical Training to Surgical Practice: Challenges, opportunities and innovation

**Presenters:**

- Gareth Griffiths, NHS Tayside, UK
- Paul Lai, College of Surgeons of Hong Kong, Hong Kong
- Helen MacRae, University of Toronto, Canada
- Ajit Sachdeva, American College of Surgeons, USA (Moderator)

**Summary:** An international perspective on transition, taking account of the needs of patients, evolving healthcare systems in which surgical care is delivered and career aspirations of individuals entering surgical practice.



## #5B Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Hall C, Level 2

### Crossing the MedEd Threshold: Gateways to medical education from young educators to young educators

**Presenters:**

- Rille Pihlak, University of Manchester, UK
- Matthew J. Stull, Case Western Reserve University, USA
- Robbert Duvivier, Maastricht University, The Netherlands
- Margot Weggemans, University Medical Center Utrecht, The Netherlands
- Kevin Garrity, University of Glasgow, UK
- Susannah Brockbank, University of Liverpool, UK
- Kevin Gervin, University of Glasgow, UK

**Summary of theme and why it is important:** Many trainees enter medical education as clinical teachers or by developing educational projects with only limited teacher training. The field of medical education has rapidly expanded over the past 50 years into a specialist area of research and practice, which can often be inaccessible to trainees. This means that there is a mismatch between what the trainees entering the field expect and the reality of the world of medical education. Unless trainees take up structured training or degrees in medical education, they might feel lost in conferences such as AMEE where majority of the discussion is in a different 'language'.

The transition from student to teacher often happens quickly in clinical practice and, unfortunately, there is rarely any formal educational training and support available. If one tries to read the literature on one's own, it can be daunting and filled with unfamiliar concepts. Many trainees who come to medical education conferences have similar difficulties identifying sessions that might be accessible, interesting or useful. Furthermore, presentations and discussions may be littered with casual references to fundamental concepts, leaving junior educators feeling alienated from the conversation. We propose that this is, in part, because junior educators have not yet grappled with some of the ideas that are fundamental to developing a broader understanding of medical education, so-called threshold concepts.

This symposium is organised by young educators as peer teaching for students, junior doctors and new educators, to give an accessible insight into the world of medical education. We will introduce key concepts, explore definitions and application of some threshold educational concepts to give participants a new understanding of terminology and ideas. This will then allow participants to better engage with the medical education community and give junior educators an opportunity to question these concepts in a less intimidating forum.

**Who should participate in the symposium?** Junior healthcare professions educators from any background, clinical or non-clinical, particularly those attending AMEE for the first time.

**What will they gain from participating?** Participants will gain:

- A toolkit to better access medical education discourse based on an understanding of key concepts.
- An understanding of how these ideas can be applied to understand their educational practice and projects.
- A critical approach to engaging with AMEE based in educational evidence.

## #5C Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Hall N, Level 2

### Controversies and challenges in publishing health professions education research: a discussion with journal editors

#### Presenters:

- Anna Cianciolo, Teaching and Learning in Medicine
- David Cook, Medical Education
- Erik Driessen, Perspectives on Medical Education
- Peter de Jong, Medical Science Educator
- Val Wass, Education for Primary Care
- Richard Hays, AMEE MedEdPublish

**Summary of theme and why it is important:** Publishing health professions education research today is very different from 20 years ago. Along with proliferation of research activity, we see new venues for online publication (both peer-reviewed and non-peer-reviewed), evolving standards for publication, increased attention to human subjects' rights, and examples of scientific misconduct of varying severity. This symposium offers an opportunity for journal editors, authors, potential authors and reviewers to discuss these and other issues facing our field.

The panel of Editors of health professions education journals will focus on some of the timely issues related to research publication. New venues for publication, including pre-peer-review publication, expanding open access journals, post-publication peer review, and predatory journals create confusion for authors, reviewers, and editors alike. Reporting guidelines (e.g., CONSORT, STROBE, and extensions to these and other similar guidelines) have encountered both wholehearted acceptance and strong resistance. The standards for "research" meriting journal publication continue to be debated. Criteria for authorship and author order vary across disciplines and journals. Prepublication, duplicate publication, and self-plagiarism are becoming increasingly challenging. We anticipate a lively and thought-provoking discussion amongst panelists and audience participants on these and other related topics.

**Who should participate in the symposium?** The session will be relevant to all AMEE participants engaged in publication of health professions education research, at any stage of career, including authors, mentors, reviewers, and editors.

**What will they gain from participating?** During this session, participants will have the opportunity to debate key controversies currently facing the academic community, making known their beliefs and priorities to both editors and peers. They will leave with a deeper understanding of these issues and will be better prepared to navigate the publication process as they look to disseminate their own work.

## #5D Symposia

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Room L3, Level 1

### The political realities of designing and implementing a selection system: Implications for policy and practice

#### Presenters:

- Fiona Patterson, Work Psychology Group, UK
- Deborah O'Mara, University of Sydney Medical School, Australia
- Wolfgang Hampe, University of Hamburg, Germany
- Julia Blitz, Stellenbosch University, South Africa

**Summary of theme and why it is important:** There is over a century of research on selection and recruitment and the field has both matured and expanded significantly over this time. Many of the same challenges remain however, especially regarding diversity and fairness issues. There is growing recognition that selection is a complex, multi-layered and dynamic phenomenon. Such is the complexity, some authors argue selection to medical education is a 'wicked problem' (Cleland et al, 2018).

A new Ottawa consensus statement on selection and recruitment (Patterson, et al, 2018) recommends that greater consideration be given to understanding the political validity of selection practices, to better understand why there remains a persistent gap between the research evidence and policy enactment in many parts of the globe. Given that selection and recruitment practices are inextricably linked to the cultural and social context in which they are conducted, in an opening editorial of a special issue of AMEE MedEd Publish on selection, the editors call for further international research evidence to inform future policy and practice.

With speakers from South Africa, Europe and Australasia, this symposium will explore the political influences upon designing and implementing selection systems, drawing upon case material in each locality. We will facilitate a plenary discussion and invite contributions from others internationally to optimise the learning.

The latest research evidence will first be presented on the issues regarding good quality selection and recruitment methods and systems (both undergraduate and postgraduate) to provide background to the topic areas and the issues. Each speaker will then present research and case material from their home country (South Africa; Germany; Australia; UK), from an institution specific and national perspective.

For example, although Australian medical schools have employed a wide range of strategies in the past 10 years to increase the rural medical workforce, there has been little impact on workforce targets. The potential of designing a selection system that is matched with a targeted delivery of a medical program rather than a one size fits all approach will be explored. In Germany, a judgement of constitutional court forces the legislative to change the highly regulated selection system. We discuss how admission research can influence judges and politicians to change admissions system to criteria which are better validated.

We will engage the audience in participation by asking them to reflect upon experiences in their own locality and encourage them to offer considerations for how countries or institutions could seek to mitigate the challenges. Questions will be offered to the audience to stimulate thinking and discussion including: how are we selecting for diversity within our programmes and are the methods currently employed truly achieving this? How can the political landscape within a country impact on selection within healthcare and what can we do to influence this? What are the challenges to consider in relation to ethnic diversity, language and widening access?

The panel will seek to both share experiences and ask questions to the audience. Throughout the symposium the panel will support the audience debate and seek to reach consensus as to the issues surrounding the complexities within selection experienced, particularly from a political validity perspective before sharing and agreeing on considerations for the future.

**Who should participate in the symposium?** The symposium will be designed to maximise audience discussion, whilst drawing upon the international perspective both of the panel and the audience. In particular, anyone who has an



interest in selection within healthcare, in particular those that may be experiencing challenges in how best to design their admissions processes or have suggestions to deal with the political influences within selection will find the symposium of great interest.

Within the symposium, each speaker will be limited to 10-15 minutes offering up to 30-40 minutes for discussion. As part of this discussion, views will be sought on other experiences internationally to share learning and experiences in relation to the complexities faced within different institutions as part of selection systems. The varying perspectives and experiences from within the panel will support the audience debate.

### What will they gain from participating?

- Gain a greater awareness and understanding of the complexities of selection within healthcare
- Knowledge of risks and opportunities regarding selection in different countries
- Awareness of how other institutions/countries are dealing with the political realities of selection, in particular from institutions and countries that may not be publishing research in a formal way
- An opportunity to interact and discuss these topics with others that may be in similar situations



## #5E AMEE Fringe 1

### 5E1 (633)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Hall M, Level 1

### Postcards from the Fringe

#### AUTHOR(S):

- David Topps, University of Calgary, Canada (Presenter)
- Maureen Topps, Medical Council of Canada, Canada

#### ABSTRACT

Fringe has always been about withdrawing from the standard PowerPoint Didactic Disaster. Are we addicted to being told how to learn? Over the years, our team has employed a wide range of styles and approaches in trying to draw us away from injections of knowledge. From shadow puppets to online games to improv, a highly mixed cocktail of success and otherwise: not all has worked, with some excruciations appearing at the worst of times. Looking back on over a decade of edgy performances, we take a fond look at some of the themes pursued, techniques employed, emergent activities and lessons learned. Some of these will be useful to future Fringe addicts... er... authors, with technical tips on how to leverage limited resources; some will be caveats of rabbit-holes to avoid. We even manage to show some examples of the impact when these sessions get under your skin, even though their original intent was definitely tongue-in-cheek. And, of course, we will continue to surprise with an infused innovation or two.



## #5E AMEE Fringe 1

### 5E2 (2704)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Hall M, Level 1

### View my View - Using Point Of View (POV) with smart glasses

#### AUTHOR(S):

- Takaaki Sato, Aintree University Hospital, UK (Presenter)
- John Sandars, Edge Hill University, UK
- Jeremy Brown, Edge Hill University, UK
- Simon Rogers, Aintree University Hospital, UK

#### ABSTRACT

Smart glasses are a wearable computer device that has been adding a splash of colour to clinical education. Smart glasses offer unique functions: voice recognition, a head-mounted screen and a Point Of View (POV) camera. Recent research tested voice recognition function on nursing students in operation theatre training where their hands must be kept sterile. The head-mounted screen was utilised to demonstrate basic surgical skills to medical students. Live-streaming displaying students' POV provides a quantum leap to clinical examinations by eliminating the examiners' "blind spots" and highlighting the students' point of focus when performing a task. In acquiring procedural skills, reviewing the POV video-recording created a positive impact by augmenting self-reflection and feedback.

Our pilot study evaluated the usefulness and usability of POV in a suturing work shop for medical students. On completion, twenty-four students answered the semi-structured questionnaire that exclusively focused on students' perspectives. The students believed the video recording was a powerful tool in self-reflection and feedback. POV live-streaming also showed a positive impact on their experience. The students shared their perspectives in a broader view such as induced anxiety, legal dispute and their innovative applications in undergraduate and postgraduate education.

It seems to me – and I hope that many people will View my View – that this new innovation can change the game of surgical education. My presentation will take the audience on a journey of cutting-edge applications of smart glasses in healthcare education in the recent years. I will share my view by live-streaming my POV during a live performance. I will, then, illustrate how the students' perspectives, which were uniquely identified in our pilot study, are supported by the recent publications. Finally, I will share my vision that smart glasses will revolutionise the surgical training by transforming the trainees' mundane perception of their compulsory work-based assessments.

## #5E AMEE Fringe 1

### 5E3 (1933)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Hall M, Level 1

### The beetle-in-a-box: a call to stop measuring the unmeasurable

#### AUTHOR(S):

- Anne de la Croix, Vrije Universiteit Amsterdam, The Netherlands (Presenter)
- Mario Veen, Erasmus Medical Center, The Netherlands

#### ABSTRACT

“Suppose everyone had a box with something in it: we call it a "beetle". No one can look into anyone else's box, and everyone says he knows what a beetle is only by looking at his beetle.—Here it would be quite possible for everyone to have something different in his box. One might even imagine such a thing constantly changing.”

- Ludwig Wittgenstein, Philosophical Investigations §293

In this Fringe session, we will use Wittgensteins ‘Beetle-in-a-Box’ as an analogy, in which the beetle is symbolic for private, personal and invisible experiences. Aspects such as reflection, empathy, personal growth, the shaping of an identity are important in medical education, yet are impossible to measure or assess: they are beetles. We cannot see other people's beetles, we can only talk about them.

We will share with you our concerns when we see researchers aiming to describe & study beetles and when we see educators judge the quality of students' beetles. Beetles such as empathy, reflection or professional attitude are treated like they are the same kind of beast as measuring blood pressure (skills), or producing the correct answers on an exam (knowledge), yet they are fundamentally different. We call for the medical education community to stop measuring the unmeasurable and to leave students' beetles alone!

We will argue our case with live experiments in which we will playfully assess the audiences private experiences. Are they hungry? Are they happy? Are they tired? Are they in love? Are they inspired? If so, how can we tell? Come and watch us while we attempt (and gloriously fail) to study and judge audience members' beetles.

## #5E AMEE Fringe 1

### 5E4 (2512)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Hall M, Level 1

### The Voice

#### AUTHOR(S):

- Peter Musaeus, Cesu Aarhus University, Denmark (Presenter)

#### ABSTRACT

The human voice tells a story about our experiences in life, the culture(s) we carry with us, and the body that speaks. We judge (and are judged by) the voice. The voice reveals cues about who we are. Voices fill the air of medical classrooms both by present and non-present agents. However, are we cognizant about the way voice influence us in daily life and in the medical educational setting? Based on my book (Stemmen. 2019. Aarhus University Press), I will tell a story about the cultural-historical psychological aspects of voice. Speaking and playing sound clips, I will illustrate how we believe we can infer personality traits from a voice e.g. in selection processes, patient communication, and personal situations such as partner choice etc. Drawing mainly from rhetoric, psychology, medical humanities and phonology, I will illustrate how the natural voice is a myth. What we think we have heard and hear in a voice depends very much on cultural context, although we also try to infer very much about the innate nature of the speaker. Based on evidence, I will speculate how our perception of voice evolved as soft- and hard-wired. Finally, I will consider the relevance of the voice to medical teachers. The voice is an all-pervasive yet illusive phenomenon, so much more than an instrument, and less than a new secret about teaching. Come and train your sensibility. The presentation will cover: A mixture of sound clips, photographs, and a PowerPoint. The aim is to describe how the voice is a product of culture and biology in order to raise awareness about our own and others' voices.





## #5E AMEE Fringe 1

5E5 (1433)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Hall M, Level 1

### Hacking Med Ed - A comparison of innovating medical education to running a startup

#### AUTHOR(S):

- Cynthia Sin Nga Lam, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong (Presenter)

#### ABSTRACT

Education researchers v.s. Entrepreneurs - both lose sleep over worrying about whether any funding comes through; both lose sleep being too excited about funding coming through. Innovate, sustainability, agile, multi-stakeholder, technology-enabled - yes, we share a lot of buzzwords. Running an education research v.s. Running a startup - both evidence-based yet highly unpredictable. There are so many similarities between innovating medical education and running a startup, yet also so many differences. My name is Cynthia, and I am a rookie social entrepreneur, medical education researcher and a TEDx speaker. In this fringe presentation, I will draw from my experience in these different roles and share how combining the hat of an entrepreneur's with that of an education researcher's can be a good idea. I will start by asking the audience to illustrate the distinctions between the two with me - literally, as I will be drawing the differences out. Then I will probe deeper into the differences that carry a significance. For example, entrepreneurs talk about pivoting a lot more than educators do - is it a matter of differences in nature, or should educators start considering pivoting as well? Entrepreneurs communicate very differently from researchers - how can we learn from each other? Entrepreneurship and research should both start lean, but one has got a more structured way of doing so - what can we infer from that? In this session, we will explore how methodologies and theories adopted by entrepreneurs can be modified to become a useful tool for educators and researchers to innovate medical education with. In this session, and in the true entrepreneur fashion of having an ostentatious slogan, we hack med ed.

## #5E AMEE Fringe 1

### 5E6 (702)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Hall M, Level 1

### Swinging Heart: music opens the door for understanding electrocardiography

#### AUTHOR(S):

- **Marcelo Rivas, Rio de Janeiro State University (UERJ) - Campinas State University (UNICAMP), Brazil (Presenter)**
- Daniel Schubert, Rio de Janeiro State University (UERJ), Brazil
- Anna Moura, Rio de Janeiro State University (UERJ), Brazil
- Marco Carvalho-Filho, State University of Campinas (UNICAMP), Brazil

#### ABSTRACT

It is 02:00am at the emergency room and you are alone. A new patient comes in with signs and symptoms suggestive of an Acute Coronary Syndrome and you must analyze his EKG strip in less than 10 minutes from the admission. We all know the thrilling sensation that accompanies an EKG strip of an acutely ill patient - its graphic complexity, the dynamic changes, the physiology it represents... Understanding the EKG is a challenge to many medical students and the stakes are high: the correct interpretation is lifesaving, but a mistake can be fatal. But why is it so hard to decipher an EKG? Could we start to introduce the different heart rhythms and their EKG expressions earlier in the undergraduate medical education curriculum? We want to give it a try. Ok, let's set the metronome at 100bpm and start the journey through some rhythm disturbances and arrhythmias. With our playlist, we invite you to create new connections between what you see, listen and feel. Maybe you will only recognize the name of the artists or the song, but the harmony of this activity will develop a friendly atmosphere to guide you through electrocardiographic taxonomy or even further: to medical diagnosis. Record these tracks in your mind until the next night shift. Shall your favorite song lead you to the diagnosis? Let's find out!

## #5F Research Papers - Learner Wellbeing

### 5F1 (85)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1620

**Location of Presentation:** Room L6, Level 1

### ‘Let’s do her a favor and let her absolutely fail’: Clinical supervisors’ experiences of allowing failure for workplace learning

#### AUTHOR(S):

- Jennifer Klasen, Kantonsspital Frauenfeld, Zurich, Switzerland (Presenter)
- Erik Driessen, Department of Educational Development & Research, University of Maastricht, the Netherlands
- Pim W Teunissen, School of Health Professions Education, University of Maastricht, the Netherlands
- Lorelei A Lingard, Center of Education Research and Innovation, London Ontario, Canada

#### ABSTRACT

**Introduction:** Failure can be a powerful teacher. Recognizing this, educational domains such as business, sports psychology and early childhood education endorse using failure for the purposes of developing skills and resilience. However, a recent narrative review found no literature addressing the phenomenon of allowing medical learners to fail in clinical workplace-based settings (1). While the medical education literature is silent on this topic, it does acknowledge the educational value of failure for postgraduate trainees and the importance of support from the clinical supervisor for learning from failure (2). Therefore, the purpose of this study was to explore whether, why and how clinical supervisors may allow failure for educational purposes. An understanding of this phenomena could inform faculty development strategies to support appropriate use of this powerful, but potentially sensitive, educational strategy.

**Methods:** With research ethics approval, we individually interviewed 19 clinical supervisors at 10 teaching hospitals in Switzerland and 2 teaching hospitals in Canada in 2018. Interviews lasting 45-65 minutes were audio-recorded, anonymized and transcribed. We purposefully selected participants to include a range of supervisory experience (3-20+ years); more than half the participants also had formal training in medical education. Participants represented a range of specialties including general surgery, obstetrics, emergency medicine, critical care, internal medicine pediatrics and psychiatry. Consistent with constructivist grounded theory methodology, we used iterative data collection and analysis procedures and theoretically sampled to explore emerging themes. The research was informed by sensitizing concepts from workplace learning theory.

**Results:** All participants reported allowing trainee failure in the clinical environment, although many acknowledged that they had not consciously reflected on the phenomenon prior to the interview. Each participant offered 1-4 specific examples of this supervisory practice. Supervisors reported allowing various kinds of failures, including during operations (e.g., selecting the wrong plane); technical procedures (e.g., misplacing the central line); medication dosing (e.g., overdosing the Vitamin K); communication events (e.g., confusing the patient’s family); diagnostic procedures (e.g., selecting the wrong ultrasound program); and patient management (e.g., planning insufficient follow-up). Supervisors talked at length about how they decide whether a particular clinical situation is appropriate for allowing failure. They described that such situations must present both minimal harm to patients and maximal learning for trainees. Supervisors described both a ‘gut feeling’ and a logical process of weighing patient, trainee and supervisor factors in their calculation of the risks and benefits of allowing failure. Failure under supervision was perceived to be a valuable teaching method for many reasons: firsthand failure is more impactful than repeated supervisor warnings; failure offers a chance to manage critical situations in a protected environment, and today’s failure has the potential to safeguard tomorrow’s patients.

**Discussion & Conclusions:** Our results suggest that clinical supervisors allow trainees to fail in the clinical workplace for educational purposes. Employing this strategy in various situations, supervisors make complex judgments about which failures are both safe and educational, striking a balance between patient safety and trainee learning. However, while this strategy is being enacted, it is not being explicitly discussed by our community. This silence may signal a taboo practice: allowing failure is in tension with patient safety culture and the Hippocratic Oath to ‘do no harm’. More empirical research is required to excavate this tacit supervisory practice and support its appropriate use in workplace learning.

**References:** Klasen JM, Lingard LA. Allowing failure as an educational strategy in residency- a narrative review. *Med Educ.* (In preparation). Wu AW, Folkman S, McPhee SJ, Lo B. Do house officers learn from their mistakes? *JAMA.* 1991 Apr 24;265(16):2089-94.

## #5F Research Papers - Learner Wellbeing

### 5F2 (123)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1620-1640

**Location of Presentation:** Room L6, Level 1

### Gender-specific effects of raising first-year standards on performance and stress levels of medical students

#### AUTHOR(S):

- Karen Stegers-Jager, Erasmus MC University Medical Center Rotterdam, The Netherlands (Presenter)
- Mesut Savas, Erasmus MC University Medical Center Rotterdam, Rotterdam, the Netherlands
- Jeroen van der Waal, Erasmus University Rotterdam, Rotterdam, the Netherlands
- Elisabeth F.C. van Rossum, Erasmus MC University Medical Center Rotterdam, Rotterdam, the Netherlands
- Andrea M. Woltman, Erasmus MC University Medical Center Rotterdam, Rotterdam, the Netherlands

#### ABSTRACT

**Introduction:** Medical schools are challenged to create academic environments that stimulate students to maintain satisfactory progress, while maintaining their health[1]. Studies have found a high prevalence of distress among medical students when compared with age-matched controls, which hampers learning, interferes with professional development and –in the long turn– affects personal well-being and patient care[2]. The present study investigates the effect of raising the first-year standards on academic performance and students' chronic psychological and biological stress levels. We also studied potentially differential effects by gender.

**Methods:** In 2014 Erasmus MC medical school raised the first-year credit standard from 67% (40/60) to 100% (60/60). We included students from the last 67% cohort (n=410) and the first 100% cohort (n=413) to assess academic performance. Furthermore, subsets of students of both cohorts (n=212 and n=244 respectively) voluntarily completed the 14-item Perceived Stress Scale (PSS) 1,5 months before the final first-year exam. The PSS reflects both general distress and the inability to deal with that stress, with higher scores reflecting higher levels of perceived stress. To determine average biological stress levels during the last 3 months scalp hair samples were collected from student volunteers in both cohorts (n=181;162) at the last day of the academic year. Additionally, students completed a questionnaire on hair colour, washing frequency, use of corticosteroids during last 6 months, other medication use and distressing life events. Main outcome measures were first-year passing rate, mean PSS score and hair cortisol concentrations (HCC). Data were analysed using logistic regression and two-way ANOVA. Analyses on HCC, using log10 transformations, were adjusted for use of corticosteroids.

**Results:** First-year passing rates were significantly higher for the 100% cohort (OR=4.65; 95%CI=2.79-7.75) and for females (OR=2.05; 95%CI=1.35-3.12). However, there was a significant interaction effect (OR=0.46; 95%CI=0.25-0.86), indicating that raising the standards was more effective for male (passing rate from 38% to 74%) than for female students (from 56% to 73%). PSS scores were also significantly higher for the 100% cohort (67%-cohort=24.1 vs 100%-cohort=27.8;  $F(1,474)=15.08$ ;  $p<0.001$ ,  $\eta^2=0.03$ ) and for females ( $F(1,474)=16.29$ ,  $p<0.001$ ,  $\eta^2=0.03$ ). This applied specifically to females in the 100% cohort (borderline significant interaction effect:  $F(1,474)=3.84$ ,  $p=0.051$ ,  $\eta^2=0.01$ ). The only significant difference on the additional questionnaire items was a higher score for the 100% cohort on distressing life events, mostly referring to taking exams (71.0% vs 41.3%;  $\chi^2(1)=30.25$ ;  $p<0.001$ ;  $ES=0.30$ ). HCC did not differ between the cohorts (67%-cohort=23.8 pg/mg hair vs 100%-cohort=22.7 pg/mg), but was significantly higher for females ( $F(1,332)=7.93$ ;  $p<0.01$ ); there was no interaction effect. In separate models including cohort and gender, both PSS (OR=0.91; 95%CI=0.89-0.94) and HCC (OR=0.38; 95%CI=0.15-0.95) were independent predictors of first-year performance. Only students with high scores on both PSS and HCC were significantly at risk of lower first-year passing rates (OR=0.27; 95%CI=0.11-0.62), in particular male students.

**Discussion & Conclusions:** Raising the first-year performance standard increased academic performance, most prominent for male students. However, it also increased levels of perceived stress, especially for female students. In particular the combination of high perceived stress and high biological stress levels, as measured by long-term cortisol, is related to poor academic performance. Our study suggests a relation between raising performance standards and students' well-being. Additionally, changes in the academic environment seem to have differential effects for male and female students. Just like in medical practice, we urge medical educationalists to take these differences into account.

**References:** [1] Wasson LT, Cusmano A, Meli L, Louh I, Falzon L, Hampsey M, Young G, Shaffer J, Davidson KW. Association Between Learning Environment Interventions and Medical Student Well-being: A Systematic Review. JAMA 2016;316:2237-2252.

[2] Hope V, Henderson M. Medical student depression, anxiety and distress outside North America: a systematic review. Med Educ 2014;48:963-79.



## #5F Research Papers - Learner Wellbeing

### 5F3 (161)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1640-1700

**Location of Presentation:** Room L6, Level 1

### Heart on your Sleeve: Exploring the validity evidence for mobile measurements as indicators of psychological stress

#### AUTHOR(S):

- Vicki LeBlanc, Department of Innovation in Medical Education - University of Ottawa, Canada (Presenter)
- George Mastoras, University of Ottawa, Ottawa, Canada
- Christopher Hicks, University of Toronto, Toronto, Canada
- Philip Aucoin, University of Ottawa, Ottawa, Canada
- Connor O'Rielly, University of Calgary, Calgary, Canada
- Walter Tavares, University of Toronto, Toronto, Canada

#### ABSTRACT

**Background:** There is growing interest in how stress influences learning, performance and wellbeing in health professions education. Correspondingly, there is burgeoning enthusiasm towards wearable health technologies (e.g. fitness bands) for real-time tracking of learners' psychological health, with the hope of better developing and evaluating interventions(1). This is especially true for mobile heart rate variability (HRV) apps, which are proposed as indicators of psychological stress. However, in using such tools for measuring stress, there are inherent assumptions that threaten construct validity(2). Prior to using mobile HRV apps to monitor learners' stress, the following hypotheses must be supported: 1) HRV values calculated with a given mobile app should correspond to those calculated by benchmark analysis software; 2) a mobile app's HRV values should differentiate between rest and stress conditions; 3) a mobile app's HRV values should correlate with traditional measures of subjective & physiological stress.

**Methods:** Ten (10) emergency medicine residents participated in 2 known stressful simulation scenarios and 2 rest periods. The first hypothesis was tested with Pearson correlation coefficients between time-based HRV (rMSSD- root mean square of successive differences; SDNN- standard deviation of NN intervals; pNN50 - proportion of NN intervals that differ > 50ms) and frequency-based HRV (Low Frequency/High Frequency (LF/HF) ratio) values provided by a mobile app (Polar™ H10 chest-strap connected via Bluetooth™ to EliteHRV™) and those generated by a benchmark analysis software (Kubios™). The second hypothesis was examined by testing the app's ability to detect different HRV levels in the stress vs rest conditions. The third hypothesis was tested with Pearson correlation coefficients between the app's HRV values and traditional measures of subjective stress (State-Trait Anxiety Inventory [STAI]) and physiological stress (salivary cortisol).

**Results:** Correlation analyses revealed that the EliteHRV™ time-domain measures correlated strongly with the Kubios™ ones (rMSSD  $r=.96$ ; SDNN  $r=.93$ , pNN50  $r=.99$ , all  $p<.001$ ), but the frequency-based HRV measures were weakly correlated (LF/HF:  $r=.10$ ,  $p=.58$ ). A multivariate ANOVA indicates that the time-domain HRV measures showed significant differences between rest and stress ( $p$  values < .02,  $\eta^2=.17-.44$ ). The frequency-domain variables did not ( $p=.68$ ,  $\eta^2=.01$ ). Two time-domain HRV measures, rMSSD and pNN50, showed greater responsiveness to change (standardized response means (SRM): 1.48 & 1.36 respectively) compared to traditional stress measures of STAI and cortisol (SRM: 1.05 & .88, respectively). Correlation analyses revealed that two time-domain HRV variables, rMSSD and pNN50, correlated moderately with STAI ( $r=-.49$  &  $r=-.46$ ,  $p<.01$ ) and cortisol ( $r=-.63$  &  $r=-.59$ ,  $p<.01$ ). The frequency-based HRV measure showed weak correlations with STAI and cortisol ( $r=-.16$  &  $r=-.11$ , NS).

**Discussion and Conclusions:** The evidence partially supports the assumptions inherent in using mobile HRV apps to assess psychological stress. For time-domain HRV variables, the evidence supports the stated hypotheses. For the frequency-domain variable, the evidence counters the stated hypotheses. Of the time-based measures, rMSSD and pNN50 showed the greatest effect sizes between rest and stress conditions, responsiveness to change, and strongest correlations with traditional stress measures and benchmark analysis software. Accordingly, the evidence supports the use of EliteHRV™'s time-based HRV measures for the assessment of short-term psychological stress in controlled simulation settings. Further research should assess the evidence for generalization inferences(2) (use of mobile apps for long-term measurement of stress in less controlled environments) and implications (risks/benefits of continuously monitoring learners' mental health) of using mobile apps to capture learners' stress.

**References:** Piwek L, Ellis DA, Andrews S & Joinson A. (2016). The rise of consumer health wearables: promises and barriers. *PLoS Medicine*, 13(2), e1001953. Kane MT. (2013). Validating the interpretations and uses of test scores. *Journal of Educational Measurement*, 50(1), 1-73.



## #5F Research Papers - Learner Wellbeing

5F4 WITHDRAWN

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## #5G Doctoral Reports 1

### 5G1 (14)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1620

**Location of Presentation:** Room 1.85-86, Level 1

### Understanding the Relationships Between Curriculum Reform, Space and Place in Medical Education

#### AUTHOR(S):

- Lorraine Hawick, Institute of Education for Medical and Dental Education, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Aberdeen, UK (Presenter)
- Jennifer Cleland, Institute of Education for Medical and Dental Education, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Foresterhill, Aberdeen, UK
- Simon Kitto, Department of Innovation in Medical Education, Office of Continuing Professional Development, University of Ottawa, Canada

#### ABSTRACT

**Introduction:** Undergraduate medical curricula must evolve in order to reflect the changing needs of contemporary medical practice, but making substantial changes to the form and delivery of medical education is challenging (Carraccio et al. 2002). While there is a growing body of research that focuses on curriculum change, relatively little attention is given to the notion of curriculum reform as a process rather than an outcome. In addition, the buildings and learning spaces where curriculum reform and undergraduate medical education are enacted contribute to people's experiences of these spaces. However, this aspect of context is currently neglected in the medical education literature. This thesis aimed to investigate the influences, vision, intentions and unintended consequences associated with a medical curriculum reform, and how the learning space and place of the medical school (where curriculum is translated) is understood and experienced by key stakeholders (e.g., building designers, teaching faculty and students).

**Methods:** Ontologically and epistemologically grounded within the social constructivist paradigm, the overall thesis aim was achieved through four overlapping empirical studies. Using a qualitative exploratory case study approach (Yin 2003), data were gathered from archived documents, individual interviews and focus group interviews with students and teaching faculty, and enriched by different theoretical concepts (e.g., the hidden curriculum, wicked problems, Foucault's panopticon). The first study set out to explore key stakeholders' perceptions and experiences of the curriculum reform processes. The second study explored the experiences of curriculum developers in their endeavour to develop and include professionalism within a curriculum reform. The third study investigated how space and place may affect and be affected by the people who inhabit them; to identify and examine the intentioned and unintended impact of a new medical school building on student experiences and practices. The final study aimed to gain a deeper understanding of the influence and impact of the medical school space on those based in the building.

**Results:** The first study demonstrated that multiple stakeholders hold different views and values in relation to curriculum reform, resulting in various influences on the process and outcomes of reform, and 'solutions' generate consequences beyond the anticipated advantages. The second study revealed hidden messages and contextual factors can enable or inhibit the translation of new teaching subjects such as professionalism into curricula. In the third study, findings revealed a number of unintended consequences on student experiences as a result of the specific space and place of a medical school facility. In the final study, data analysis demonstrated the complexity of the medical school as an organisational space and how it can unintentionally create conditions of separation and isolation for teaching faculty and students.

**Discussion and Conclusion:** Acknowledging that each medical school has a unique space and place, and the relationships, dynamics and interactions between people and systems will vary because of context is crucial and cannot be underestimated. The thesis findings demonstrate that such complexity inherently generates successes, failures, unanticipated and unintended consequences which impact on different groups of people in different ways.

#### References:

Carraccio, Carol, Susan D. Wolfsthal, Robert Englander, Kevin Ferentz, and Christine Martin. 2002. "Shifting Paradigms: From Flexner to Competencies." *Academic medicine : journal of the Association of American Medical Colleges* 77(5):361-67.  
Yin, Robert K. 2003. *Case Study Research : Design and Methods*. Third. Thousand Oaks, CA: Sage Publications.

## #5G Doctoral Reports 1

### 5G2 (20)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1620-1640

**Location of Presentation:** Room 1.85-86, Level 1

### Learning from lapses: How to identify, classify and respond to unprofessional behaviour in medical students

#### AUTHOR(S):

- Marianne Mak-van der Vossen, Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Research in Education, VUmc School of Medical Sciences, Institute for Education and Training, Amsterdam, the Netherlands (Presenter)
- Gerda Croiset, University Medical Center Groningen, Groningen, The Netherlands
- Walther van Mook, Maastricht University, School of Health Professions Education, Maastricht, the Netherlands
- Arianne Teherani, University of California San Francisco, San Francisco, USA
- Rashmi A. Kusurkar, Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Research in Education, VUmc School of Medical Sciences, Institute for Education and Training, Amsterdam, the Netherlands

#### ABSTRACT

**Introduction:** Quality of health care depends on physicians acting professionally. Medical students' unprofessional behaviour (occurring in about 3-20% of students) has been shown to predict unprofessional behaviour after graduation. Triggers are often a combination of individual factors (deficits in cognition, skills, attitude) and contextual factors (procedural, cultural, situational, organizational). Unfortunately, educators often fail to provide feedback to students displaying professionalism lapses, thus limiting their learning from these lapses. The literature does not provide sufficient empirical guidance to faculty regarding management of students' lapses. Without clear directions, the guidance of students displaying unprofessional behaviour takes a toll on resources, time and effort of medical schools and their faculties, thus delaying potential remediation and dismissal. This research aimed to provide a framework for identifying, classifying and guiding students who display unprofessional behaviour in medical school.

**Methods:** This program of research comprised eight interconnected papers: two qualitative studies, one mixed-method study, one systematic review study, one descriptive, one perspective and one practical application papers. We conducted our research from the constructivist paradigm, in which data and analyses are created based on the interaction of both participants and researchers. We chose research methods that allowed for this interaction (content analysis, latent class analysis, thematic analysis, nominal group technique and grounded theory approach) to study the experiences of individuals from different stakeholder groups (frontline teachers, professionalism supervisors, deans, simulated patients and peer students). Thus, the methods jointly generated outcomes that were grounded in the practical perspectives of individuals handling unprofessional behaviour of students.

**Results:** The main results are: Medical educators can identify unprofessional behaviours among students using the 4 I's model, which comprises 30 descriptors indicating unprofessional behaviours in four domains: involvement, integrity, interaction, and/or introspection. Medical educators can classify unprofessional student behaviour into four profiles (accidental behaviour, struggling behaviour, gaming-the-system behaviour and disavowing behaviour), distinguished by two dimensions (reflectiveness and adaptability). Medical educators can respond to unprofessional student behaviour in three consecutive phases: understand and explore, remediate, and gather evidence for dismissal. Medical students' responses to unprofessional behaviour of faculty and peers are: avoiding, addressing, reporting, and/or initiating policy change.

**Discussion:** Any student can experience a professionalism lapse due to personal or contextual circumstances. Medical educators could support students in learning from such lapses by enabling a blame-free handling of unsatisfactory behaviour, and discussing both personal and institutional causes for it [1]. This approach aligns with the way another quality issue in medicine is handled: the occurrence of medical errors [2]. If medical educators address lapses, focusing on the student's potential benefit, then their feedback is likely to help not only the student in question but also other students. They can see how educators –their role models– handle unsatisfactory behaviour, and are likely to follow their example. Future research could use ethnographic research methods to understand the meaning inherent in the activities of students whose behaviour is seen as unprofessional.

**Conclusions:** This dissertation facilitates medical students and educators alike in attending to unprofessional behaviour by providing them with guidance on how to identify and classify unprofessional student behaviours, and

then respond accordingly. Acknowledging unprofessional behaviour –and changing its underlying causes– will promote a culture of excellent professionalism in medical schools. This acknowledgement is likely to benefit the professionalism of aspiring doctors and their future colleagues, and ultimately the safety of their future patients.

**References:** 1. Mak-van der Vossen MC, De la Croix A, Teherani A, Van Mook WNKA, Croiset G, Kusurkar RA. A roadmap for attending to medical students' professionalism lapses. *Academic Medicine*. 2018; published ahead of print. 2. Wong BM, Ginsburg S. Speaking up against unsafe unprofessional behaviours: the difficulty in knowing when and how. *BMJ Qual Saf*. 2017; 26 (11): 859-62.



## #5G Doctoral Reports 1

### 5G3 (28)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1640-1700

**Location of Presentation:** Room 1.85-86, Level 1

### Rethinking clinical reasoning in undergraduate medical education: facilitating collective learning in the activity of decision-making by health care students

#### AUTHOR(S):

- Sarah Berger, Medical Faculty Heidelberg, University of Heidelberg, Heidelberg, Germany (Presenter)
- Katja Krug, Department of General Practice and Health Services Research, University Hospital Heidelberg, Heidelberg, Germany
- Joachim Szecsenyi, Department of General Practice and Health Services Research, University Hospital Heidelberg, Heidelberg, Germany
- Katja Götz, Institute of Family Medicine, Campus Lübeck, University Hospital Schleswig-Holstein, Lübeck, Germany

#### ABSTRACT

**Introduction:** Given the complex and dynamic health systems that new medical graduates are entering, students need to be prepared with both the cognitive and collaborative capabilities necessary for effective clinical decision-making in future practice. However, although the significance of collaboration in teams for care quality and patient safety is increasingly being recognized, clinical reasoning continues to be taught primarily in monoprofessional settings with an emphasis on individual rationality. This is despite the fact that emerging evidence from group cognition literature indicates interventions fostering collaboration and participation improve decision quality [1]. The aim of this study was to gain insights into how medical and other health care students articulated their thinking and reasoning during the activity of decision-making as a monoprofessional or interprofessional collective under conditions of moderate complexity.

**Methods:** An exploratory case study design using direct observation was used and based on a role-play scenario, in which participants discussed three complex patient cases, taking into account clinical and ethical aspects of care, to reach a collective decision. In order to enable a comparison between professionally homogeneous and professionally heterogeneous groups, by means of "purposive sampling", monoprofessional groups (MP) of medical students were recruited and compared with interprofessional groups (IP) of medical and other health care students. The planned cognitive and collaborative complexity of this learning activity increased the likelihood of struggle, uncertainty and the unexpected arising. Engeström's theory of "expansive learning" [2] underpinned this endeavour and explicitly made room for dynamic and unpredictable outcomes to emerge. Data were recorded digitally with video cameras and subsequently transcribed verbatim. Qualitative analysis of transcripts, supported by ATLAS.ti., was inductive and based on Strauss's "Theoretical Coding" to generate themes and categories.

**Results:** In four MP and four IP groups, a total of 45 students from six health professions participated: medicine (n=31), nursing (n=6), laboratory technology (n=3), orthoptics (n=2), physiotherapy (n=2), and speech and language therapy (n=1). Coding and interpretation of transcripts resulted in the identification of two key themes: a) forms of reasoning and b) collective decision-making. Participants articulated both implicit and explicit reasoning while discussing and defending standpoints. All groups executed decisions based on co-constructed criteria. MP groups decided unanimously, whereas IP group decisions were by majority rule with abstentions and dissensions. Six groups (three MP, three IP) independently came to the same final result.

**Discussion:** Key findings showed that students moved along a dynamic continuum between implicit and explicit reasoning at different stages of the collective decision-making process. Initial fast mental conclusions articulated early were counterbalanced by conscious weighing up of ideas over time as disagreement and differences of opinion were encountered and addressed. Furthermore, the homogenous nature of MP groups was reflected in collective decisions characterized by a strongly rational approach to evaluation of patient cases against collectively determined decision-making criteria. In contrast, the heterogeneity of IP groups was reflected in collective decisions characterized by a less structured and emergent approach to evaluation of patient cases against collectively determined decision-making criteria.

**Conclusion:** Intentional provision of interprofessional learning activities for medical students to practice articulating their thinking and reasoning processes and gain collaborative experiences will not only enhance their clinical decision-



making capabilities but also prepare them more appropriately for future practice. However, such measures require further adaptation and evolution of clinical decision-making modules in already densely packed undergraduate curricula.

**References:** 1. Curşeu, p. & Schrujjer, S. (2012). Normative interventions, emergent cognition and decision rationality in ad hoc and established groups. *Management Decision*. 50:(6),pp.1062-1075. 2. Engeström, Y. (2009). Expansive learning. Toward an activity-theoretical reconceptualization. In: *Contemporary theories of learning. Learning theorists... in their own words*, Ed. Illeris, K., Routledge, New York, pp. 53-73.



## #5G Doctoral Reports 1

### 5G4 (3)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1720

**Location of Presentation:** Room 1.85-86, Level 1

### Cognitive Load Theory and the Teaching and Learning of Procedural Skills: The Case of Gastrointestinal Endoscopy

#### AUTHOR(S):

- Justin Sewell, University of California San Francisco, San Francisco, USA (Presenter)
- Christy Boscardin, University of California San Francisco, San Francisco, USA
- Olle ten Cate, University Medical Center Utrecht, Utrecht, Netherlands
- John Young, Hofstra/Northwell School of Medicine, Hempstead, USA
- Patricia O'Sullivan, University of California San Francisco, San Francisco, USA

#### ABSTRACT

**Introduction:** Teaching and learning procedural skills in the health professions is challenging for teachers and learners alike, largely due to complexity of simultaneous cognitive and psychomotor demands. Cognitive load theory (CLT) is highly relevant to complex learning settings and posits working memory as the 'bottleneck' for learning, as it can manage only a few pieces of information at any moment (whereas sensory and long-term memory are considered infinite)[1]. CLT states that three types of cognitive load impose on working memory. Intrinsic load occurs when learners perform essential task demands. Germane load occurs when learners form and refine learning schemas. Extraneous load occurs when learners attend to internal or external distractions. CLT goals are to optimize intrinsic and germane load, and to minimize extraneous load. The overarching goal of this doctoral research was to examine the role of CLT in an exemplar procedural training setting, gastrointestinal endoscopy, by addressing five primary research questions: (1) How can we measure intrinsic, germane and extraneous load during colonoscopy training? (2) What factors are associated with cognitive load subtypes during colonoscopy training? (3) What lessons can we learn from studies using CLT to examine learning in diverse professional workplace settings? (4) What CLT-oriented strategies do experienced endoscopy teachers report using when teaching endoscopy learners? (5) How are teaching strategies identified in question 4 enacted during actual colonoscopy teaching, and how do learners perceive the strategies as affecting their cognitive load?

**Methods:** Five studies addressed the five research questions: (1) We developed a survey instrument to measure intrinsic, germane and extraneous load among 477 colonoscopy learners, and collected evidence for validity, using exploratory and confirmatory factor analysis; (2) We examined multivariable models describing associations between cognitive load subtypes and aspects of learners, tasks, teachers and settings during colonoscopy training; (3) We performed a BEME scoping review of studies using CLT to examine learning in professional workplace training settings within and outside of the health professions; (4) In a qualitative study, we analyzed interviews with 16 experienced gastrointestinal endoscopy teachers in the USA, Canada and Netherlands using template analysis; (5) We performed a mixed-methods study observing colonoscopies performed at 2 hospitals in the USA.

**Results:** In study 1, the most parsimonious model included 3 factors corresponding to intrinsic, germane and extraneous load. Fit parameters were satisfactory; evidence for validity was presented. In study 2, we identified unique sets of factors associated with each cognitive load subtype. In study 3, analysis of 116 included studies yielded multiple theoretical and practical recommendations[2]. In study 4, we characterized 11 specific teaching strategies that experienced endoscopy teachers reported using; these fit well within the CLT framework. In study 5, we analyzed 519 instances of the 11 teaching strategies used during 10 observed colonoscopies. The most common strategies were motor instruction (decreased intrinsic load), feedback (decreased intrinsic load, increased germane load), schema teaching (increased germane load), and checking learner understanding (increased germane load).

**Discussion & Conclusions:** Our research establishes strong relevance of CLT to procedural skills training in the health professions and addresses ongoing scholarly conversations related to CLT: how to measure cognitive load subtypes and the identity of germane load (our research suggests germane load is a construct distinct from intrinsic load). The research provides practical insights to address the challenges of teaching and learning procedural skills in the health professions.

**References:**

- [1] Young JQ, Van Merriënboer J, Durning S, Ten Cate O. Cognitive Load Theory: implications for medical education: AMEE Guide No. 86. *Med Teach.* 2014;36(5):371-384. doi: 10.3109/0142159X.2014.889290.
- [2] Sewell JL, Maggio LA, ten Cate O, van Gog T, Young JQ, O'Sullivan PS. Cognitive load theory for training health professionals in the workplace: A BEME review of studies among diverse professions: BEME Guide No. 53. *Med Teach.* 2018 Oct 17:1-15. doi: 10.1080/0142159X.2018.1505034.



## #5H Short Communications - Curriculum Development

### 5H1 (2723)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 1.61-62, Level 1

### Unveiling the Hidden Curriculum of Undergraduate Medical Education in Some Sudanese Medical Schools

#### AUTHOR(S):

- Alsarah Diab, Sudan Medical Specializations Board, Sudan (Presenter)
- Nazik Elmalaika Husain, Omdurman Islamic University, Sudan
- Magda Elhadi, University of Gezira, Sudan

#### ABSTRACT

**Background:** The hidden curriculum is the set of influences that function at the level of organizational structure and culture. It is more influential than the formal curriculum with rarely harmless effects and recent studies show that it is responsible for the development of professional identity. The hidden curriculum of undergraduate medical education was never studied before in a Sudanese context, therefore this study aimed to explore it in sampled Sudanese Universities.

**Summary of Work:** This study was conducted from January through October 2018, students were randomly selected from the four oldest Sudanese medical schools from both governmental and private sectors. Qualitative data were collected using focus group discussion (FGD) and content was thematically analysed and recruitment was stopped once saturation was reached for themes.

**Summary of Results:** Ten FGD sessions were conducted and six themes have emerged. 'Hierarchism' was evident at the level of teachers, universities and specialities. 'The positive and negative role models' were highlighted by all focus groups. 'Gender discrimination' was reported by female participants, perceived through constraints on career choice and prejudice. Also, 'Stereotyping some specialities' with exclusivity for harsh characters was clear in both Obstetrics and Gynaecology and Surgery 'Focus on academic performance and devaluing extracurricular activities' was loud in some university policies that prohibit such activities. Finally 'Undergraduate research as a low priority' as it was taught haphazardly. The participants believed that the hidden curriculum impacts them greatly, it influenced both of their development as doctors, the sort of identity they acquired, and the way in which they choose the speciality.

**Discussion and Conclusions:** There are both resemblances and uniqueness of the findings of this study with others in Japan and the UK. With exception to the positive role models, the hidden curriculum appears to be negative in Sudan, which could be attributed to the lack of structured training for medical teachers, ignorance about the hidden curriculum and absence of opposing forces through the formal curriculum.

**Take-home Messages:** In conclusion, the hidden curriculum strongly influences medical students' development and their career choices, continues to devalue some specialities and remains unopposed by the formal curriculum.

## #5H Short Communications - Curriculum Development

### 5H2 (1301)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 1.61-62, Level 1

### Curriculum Redesign of a Graduate Entry Medical Program using Systems Thinking Approach

#### AUTHOR(S):

- Priya Pathak, University of Sydney, Australia (Presenter)
- Chris Roberts, University of Sydney, Australia
- Stuart Lane, University of Sydney, Australia
- Jane Bleasel, University of Sydney, Australia
- Sabina Cerimagic, University of Sydney, Australia

#### ABSTRACT

**Background:** Sound curriculum design is guided by proven health professional education practices, underpinned by sophisticated curriculum theory. It can be implemented using systems thinking, where 'learning' is conceived as an all-encompassing sub-system of 'cognition' (how we learn), 'content' (what we learn), 'pedagogy' (strategies by which we learn) and 'assessments' (what have we learnt), embedded within the supra-system of unpredictable and undefined clinical environments. We applied these principles to produce a distinctive curriculum comprising: early and diverse clinical immersion coupled with inquiry-based blended learning models, leading to guided experiential learning, through to work-integrated learning, and finally preparation for practice. Vertical and horizontal integration and attainment of eight core capabilities was ensured by a programmatic approach to assessments, scaffolded by an e-portfolio/  
**Summary of Work:** Extensive stakeholder consultations (governing bodies, specialist colleges, faculty, patients, and students) informed the design of the new curriculum, providing insights into the embedded agents, beneficiaries, affordances and constraints into various subsystems within the 'real clinical world' as described below.

**Summary of Results:** In our curriculum, systems of learning progress from cognitive understandings of basic mechanisms and clinical rules (Year 1), to application of these basic mechanisms for formulating basic differential diagnoses, investigation and management (Year 2), leading to attainment of competencies and capabilities associated with more complex diagnostic reasoning and metacognition (Years 3-4). The supporting sub-system of content and related pedagogy flows from common case/problems within Team-based Learning sessions (Y1), and clustering common symptoms within Case-based Learning sessions (Y2), leading towards uncommon and undifferentiated presentations in work-integrated Clinical Reasoning Sessions (Y3-4). A program of assessments integrates these sub-systems and fosters self-directed learning. Evaluation uses a theory-based model.

**Discussion and Conclusions:** Systems thinking allows the curricula to be more effectively embedded within complex and ill-defined clinical teaching environments. This enables agility for better integration of the learning sub-systems of cognition, content, pedagogy and assessments.

**Take-home Messages:** 1. The epistemic framework of Systems thinking provides deeper understanding of all interacting systems and subsystems within undifferentiated and complex settings. 2. This flexible, yet action-oriented approach can be used in developing health professional education curriculum for contemporary clinical environments.



## #5H Short Communications - Curriculum Development

### 5H3 (1411)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 1.61-62, Level 1

### People are the Corner Pieces of the Reformation Puzzle: Contributing to Egyptian Medical Education Reform Through Professional Development Training

#### AUTHOR(S):

- Samantha Miles, Knowledge E, United Arab Emirates (Presenter)
- Ahmed Tawdy, Military Medical Academy, Egypt
- David Taylor, Gulf Medical University, United Arab Emirates
- Nadia Badrawi, Supreme Council of Universities, Egypt

#### ABSTRACT

**Background:** In response to the national vision for improved healthcare and education across Egypt, the Egyptian Knowledge Bank, an initiative of the Ministry of Education, commissioned a project for capacity-building training to promote 'Teaching Excellence in Medical Education'. After successful delivery of pilot program in 2017, the initiative evolved into a national project of professional development fostering collaboration between the multiple government entities, all government sponsored medical schools, and a private service provider. The project, delivered in 2018, aimed to build the critical mass of professors with the necessary skills and mindset to drive curriculum reform and implement teaching excellence practice to move towards a fully integrated, competency-based 5+2 structured medical education curriculum.

**Summary of Work:** The program delivered 4 modules across 30 days of training, supported by 5 international experts: 1. Theory Guided Teaching and Learning (Hossam Hamdy); 2. Applied Curriculum and Course Design (David Taylor); 3. Assessment Design (Adrian Freeman, Maryellen Gusic); 4. Practical Application of Teaching Excellence Skills (Michelle McLean). It conveyed core-competencies determined based on governmental mandates, Egyptian stakeholder feedback, and international expert consultation. The interactive workshops combined content delivery with hands-on exercises and practical exercises to maximize retention and empower learners.

**Summary of Results:** 83 participants represented 26 medical schools across Egypt. Every school represented in the project was supported to develop and submit a revised curriculum map moving towards a competency-based integrated delivery. More than ½ of the participants went on to lead training sessions to spread the knowledge they obtained.

**Discussion and Conclusions:** This has been a significant undertaking involving the facilitated collaboration between governmental entities, a private service provider, and medical schools, moving towards a shared vision, aligned with the government policy and international standards. It has been received very positively by the participants and has already had significant impact within their institutions.

**Take-home Messages:** Significant and rapid changes are possible when there is a shared vision, facilitated by stakeholders and supported by a team of international experts. One of the outcomes of the project has been the renewal of the project to meet the greater demand for training and support to facilitate further radical development of medical education in Egypt.

## #5H Short Communications - Curriculum Development

### 5H4 (3367)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 1.61-62, Level 1

### Accelerating Change in Medical Education: Outcomes from a Community of Innovation

#### AUTHOR(S):

- **Kimberly Lomis, American Medical Association, USA (Presenter)**
- Sally Santen, Virginia Commonwealth School of Medicine, USA
- Judee Richardson, American Medical Association, USA
- Michael Dekhtyar, American Medical Association, USA
- Susan Skochelak, American Medical Association, USA

#### ABSTRACT

**Background:** The American Medical Association's Accelerating Change in Medical Education (ACE) initiative established a community of innovation to propagate creative education models. Objectives included: (1) Developing new methods for teaching and/or assessing key competencies for medical students and fostering methods to create more flexible, individualized learning plans; (2) Promoting exemplary methods to achieve patient safety, performance improvement, and patient-centered team-based care; (3) Improving medical students' understanding of the health care system and health care financing; (4) Optimizing the learning environment. Grants were awarded to eleven US medical schools in 2013 plus 21 in 2016, concluding in 2018.

**Summary of Work:** Common curricular enhancements included: systems thinking, quality improvement, patient safety, value-based care, health care economics/policy, teamwork, interprofessional care, leadership, change agency, health information technology. Programmatic changes supported active learning, competency-based education, individualized learning plans, assessing readiness for internship, optimizing the learning environment, coaching and wellness programs. Collaborative work articulated the concept of health systems science as the third pillar of medical education, complementing basic sciences and clinical skills. Additionally, ACE collectives promoted the Master Adaptive Learner, competency-based methods, coaching, educational informatics, and wellbeing.

**Summary of Results:** ACE propagated innovations across the US, with multiple stakeholder benefits: students - training in new topics and individualized pathways to support competency; faculty members - new skills, funded roles, scholarship, academic advancement; medical schools - enhanced reputations driving recruitment and external funding; health systems - faculty and students trained in quality improvement, patient safety, systems thinking. ACE has produced 168 academic publications, cited over 1000 times. Over 600 consultations involving 250 institutions accelerated innovations across the US and internationally.

**Discussion and Conclusions:** The ACE initiative fostered a community of innovation in medical education. Institutions striving to implement bold changes shared strategies and struggles to create the medical schools of the future and promote rapid dissemination. ACE has impacted 19,000 students, caring for 33 million patients annually. Study of student cohorts transitioning to GME will include graduate and program director surveys and ACGME milestones.

**Take-home Messages:** Cross-institutional collaboration provides support for the challenging work of transformative change in medical education and enables rapid propagation of ideas.

## #5H Short Communications - Curriculum Development

5H5 (2695)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 1.61-62, Level 1

### Mapping and Reviewing the Medical Curriculum using Artificial Intelligence

#### AUTHOR(S):

- Paul Gagnon, LKCMedicine, Nanyang Technological University, Singapore (Presenter)
- Red Mendoza, LKCMedicine, Nanyang Technological University, Singapore
- Sneha Mondal, IBM India, India
- Swarnadeep Saha, IBM India, India
- Malolan Chetlur, IBM India, India
- Nabil Zary, Mohammed Bin Rashid University of Medicine and Health Sciences, UAE

#### ABSTRACT

**Background:** “The curriculum in medical education is a sophisticated blend of educational strategies, course content, learning outcomes, educational experiences, assessment, the educational environment and the individual students’ learning style, personal timetable and programme of work” (Harden 2011). Curriculum mapping can provide an overview of the learning outcomes, learning resources, learning activities and assessment. Since mapping and reviewing a curriculum is a human resource intensive exercise, the aim of this study was, therefore, to explore if Artificial Intelligence (AI) could be employed to understand a medical curriculum.

**Summary of Work:** The context of the study was the Lee Kong Chian School of Medicine (Singapore) with a comprehensive curriculum map covering the whole MBBS program, consisting of thousands of Learning Outcomes (LOs) (more than 5000 LOs across five years) aligned to a variety of competency frameworks. Using Content Experts, we trained an AI curriculum mapping system to determine which LOs of similar nature and description are most applicable to a specific domain across the systems in question. As well, this AI curriculum mapping system was employed to align the LOs to targeted Learning Resources (LRs) within curriculum teaching blocks and associated MCQs.

**Summary of Results:** We have developed a framework that enables AI to understand the relationship between learning outcomes and also align the learning outcomes to relevant learning resources within curriculum teaching blocks, as well as associated MCQs.

**Discussion and Conclusions:** The ability of the AI curriculum mapping system to identify relationships between LOs was very encouraging and indicates a potential for AI to support medical schools in their curriculum tracing, mapping and reviewing processes. Furthermore, such a capability can be employed by learners as an LO centric resource recommender system.

**Take-home Messages:** Artificial Intelligence may be employed to support increased efficiency in curriculum mapping efforts, leading to decreased efforts by content experts, and the opportunity for more frequent targeted curriculum reviews in the context of a continuous quality improvement process.

## #5H Short Communications - Curriculum Development

### 5H6 (3361)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 1.61-62, Level 1

### Focussing intrinsic roles integration - a strategic multi-site mapping approach in German medical undergraduate curricula

#### AUTHOR(S):

- Jan Griewatz, Competence Centre for University Teaching in Medicine Baden-Wuerttemberg, Germany (Presenter)
- Miriam Rothdiener, Competence Centre for University Teaching in Medicine Baden-Wuerttemberg, Germany
- Maria Lammerding-Koeppel, Competence Centre for University Teaching in Medicine Baden-Wuerttemberg, Germany

#### ABSTRACT

**Background:** Internationally, competency-based frameworks with structuring role concepts are increasingly implemented as basis in undergraduate medical education (UME). Intrinsic roles incorporate relevant competencies complementing medical expertise. However, clarification and implementation of these intrinsic roles in existing structures remain difficult, due to complexity and non-transparency of grown curricula. The aim of this cross-institutional mapping study was to analyse: (1) to what extent German UME programs explicitly meet newly given standards after five years of study and (2) which further information can be drawn from multisite mapping data for evidence-based reflection on curricula and framework.

**Summary of Work:** In a joint project 8 German medical faculties mapped their curricula (80-100% of courses) against given national standards, using a common mapping tool and consented procedures. Roles representation was characterized by the curricular weighting of roles objectives (percentage of citations) and referred to the average weighting of intrinsic roles. Weightings and program agreement were interlinked in role-specific Matrix Maps to document the roles' overall developmental status.

**Summary of Results:** Data shows that, especially (sub-)competencies of the Health Advocate are consistently well-integrated in curricula with generally high curricular weightings. The Scholar ranks as the role with the most progression at some faculties, showing several high weighted objectives with a wider range of curricular representation. The Collaborator displays average curricular representation, but also signs of curricular development in relevant parts. Although the Professional is partly well adopted, most of its objectives reveal low explicit curricular weightings. The Leader/Manager is characterized by consistently lowest curricular weightings with several substantial deficiencies in curricular representation. The 4-Field-Matrices provide insight in overall risk-and-value-potential of roles, based on the localization of objectives in a quadrant (Disregard, Potential, Progress, Emphasis). Thus, quadrant-specific lead strategies and measures are enabled.

**Discussion and Conclusions:** The process-oriented, non-normative benchmarking approach provides a differentiated snapshot to compare programs in the field of others, revealing emphases and shortcomings in role implementation. The outline of multisite data may serve as external reference for program self-assessment, fostering informed discussions and strategic curriculum development. Thus, it enhances transparency and resource-efficiency. It may also provide data from practice for framework review.

## #51 Short Communications - Assessment - OSCE 2

511 (2510)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room L2, Level 1

### The discriminatory power of examiners' OSCE global ratings with other areas of a paediatric assessment program

#### AUTHOR(S):

- **Hasantha Gunasekera, University of Sydney, Discipline of Child and Adolescent Health, Australia (Presenter)**
- Jennifer Anderson, University of Sydney, Australia
- Deborah O'Mara, University of Sydney, Australia

#### ABSTRACT

**Background:** Tests with high statistical reliability may not assess critical clinical skills well, whereas, clinical assessments may not have high reliability statistics. The Sydney Medical Program's Child and Adolescent Health (CAH) teaching block's assessment includes an integrated score across a knowledge test, a short answer clinical skills paper and a three station OSCE. A global rating scale was introduced for the OSCE where examiners (senior clinicians) make an overall judgement of each student's performance on each station incorporating communication and inter-personal skills. In this study, we analysed the association between the global ratings and student performance in terms of the integrated block score excluding the global ratings.

**Summary of Work:** Global rating scores and the in-block CAH integrated assessment results, exclusive of the global rating score, were de-identified for 462 students across 18 months (6 rotations) to December 2018. We categorised students into 4 groups by the number of OSCE stations for which a student was given a satisfactory global rating, and compared their integrated CAH score using Analysis of Variance (ANOVA).

**Summary of Results:** The number of students who were categorised satisfactory in all 3 OSCEs was 265 (57% of students); in 2 OSCEs was 136 (29%); in 1 OSCEs was 52 (11%); and there were 9 students (2%) who were not satisfactory in any OSCE station. As expected, there was an association between the number of satisfactory global ratings and the overall OSCE score ( $F=132.18$ ,  $df\ 3,461$ ,  $p<0.001$ , eta squared 0.465). However, the ANOVA also showed a significant difference between students' integrated CAH assessment mark for these 4 groups, increasing consistently according to the number of satisfactory global ratings ( $F=46.14$ ,  $df\ 3,461$ ,  $p<0.001$ , eta squared 0.232).

**Discussion and Conclusions:** Experienced paediatric examiners' global ratings in an OSCE station are significantly associated with that student's final integrated assessment mark. The generalisability of a global score by experts should be acknowledged by being part of the summative assessment calculation. Further research is required on how best to use expert judgements in medical education assessment.

**Take-home Messages:** Examiners global ratings should be used for a range of assessments and feedback.



## #51 Short Communications - Assessment - OSCE 2

512 (2714)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room L2, Level 1

### Linear OSCE progression in a Physician Associate Programme

#### AUTHOR(S):

- Sharon Hartwell, Swansea University, UK (Presenter)
- Jayne Dawkins, Swansea University, UK
- Steve Capey, Swansea University, UK

#### ABSTRACT

**Background:** Swansea University set up a Physician Associate (PA) programme starting in September 2016. We ensured our final OSCE was at a similar/higher standard than the national OSCE and used OSCE blueprint produced by the Faculty of Physician Associates.

**Summary of Work:** In Year One the 16 station OSCE was split into two parts containing eight stations each. The first part was sat after 19 weeks of the programme and focused on the process of undertaking skills on 'normal' patients. After this OSCE the students are given their percentages for each station and written feedback from examiners on their performance. The second part was sat at the end of Year 1 and assessed both process and differential diagnoses. The two parts of the OSCE are standard set and the results are combined for all 16 stations.

In Year 2, there was a 16 station OSCE held at the end of the year and the Angoff calculated across all stations.

The aim of the OSCEs was to ensure a progressive increase in competency and complexity.

**Summary of Results:** All students who passed our OSCEs, passed the national OSCE, achieving the fourth highest score of all schools at that sitting. Qualitative feedback from PA graduates stated unanimously that the OSCEs and teaching prepared them well for the national OSCE and clinical work. When comparing the performance rank order between all three OSCEs, there is minimal change between students.

**Discussion and Conclusions:** We feel that the increase in complexity of the OSCEs across Year 1 and Year 2 OSCE prepared the students for both the national OSCE and the work of a PA. We believe our OSCE standards ensure a steady increase in expected skills, rather than a step-wise increase.

**Take-home Messages:** A two stage OSCE, with increasing complexity across a year of study, can ensure an increase in expected knowledge and skills between the first and second parts of the OSCE and can ensure that students meet expected standards early in the two year course.

## #51 Short Communications - Assessment - OSCE 2

513 (2309)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room L2, Level 1

### Impact of external quality assurance on quality improvement to Objective Structured Clinical Exams (OSCEs) at Australian medical schools

#### AUTHOR(S):

- Shannon Saad, The University of Notre Dame, Australia (Presenter)
- Cassandra Richmond, The University of Notre Dame, Australia
- Karina Jones, James Cook University, Australia
- Karen D'Souza, Deakin University, Australia
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- Bunmi Malau-Aduli, James Cook University, Australia

#### ABSTRACT

**Background:** Australian Collaboration for Clinical Assessment in Medicine (ACCLAiM) is a collaborative venture between medical schools that focuses on benchmarking student outcomes in the clinical domain. This is achieved by the collective development and use of Objective Structured Clinical Exam (OSCE) stations with benchmarking of student performances between de-identified institutions. In addition, ACCLAiM members partake in a quality assurance (QA) arrangement, whereby a QA visitor from one institution observes the OSCE at another institution, and then completes a structured feedback report spanning the broad range of processes that contribute to an OSCE. The QA report is submitted to ACCLAiM and the host medical school. Schools involved in the collaboration have access to reports that have been conducted by their member academics, or relating to their own OSCE.

**Summary of Work:** Perceptions of how the QA process informs practice were obtained by online survey of ACCLAiM-participating schools. Invited participants have roles in medical education and /or assessment, with experience in the QA process. Survey questions addressed issues relating to the use of the QA report, including informing future OSCE practice at each school.

**Summary of Results:** All respondents reported usefulness of the QA report, primarily citing the ability to use the feedback to drive changes and/or improvements in OSCE processes at their School. It was noted that feedback frequently instigated improvements to OSCE case content, the structure of marking sheets, the processes for standardising SP performances, and examiner training and calibration processes. Improvement of OSCE stations was ranked as the most important outcome consequence. Most respondents (83.3%) indicated additional benefits of having a QA examiner, including the establishment of collegial networks and strengthening of collaborations.

**Discussion and Conclusions:** Consistent with the aims of ACCLAiM, feedback reports serve to drive QA improvement processes in Australian medical schools. Incidental benefits include establishing a medical education community of practice between member schools.

**Take-home Messages:** 1. The ACCLAiM QA process has informed quality improvement both within and between schools. 2. Improvement of OSCE station quality is the most valued resulting outcome. 3. Quality assurance of clinical assessment has facilitated a community of practice in medical schools within Australia.

## #51 Short Communications - Assessment - OSCE 2

514 (1721)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room L2, Level 1

### Does Confidence about Competence Decisions Increase as Assessment Data Accumulate? It depends on the OSCE Domain

#### AUTHOR(S):

- Jorie Colbert-Getz, University of Utah School of Medicine, USA (Presenter)
- Katie Lappe, University of Utah School of Medicine, USA
- Tiffany Weber, University of Utah School of Medicine, USA
- Danielle Roussel, University of Utah School of Medicine, USA

#### ABSTRACT

**Background:** Student assessment has traditionally been course-based with assessment scores combined to determine a final grade. Students are motivated to pass a course, but it is unclear if they achieve program competencies. Alternatively, a programmatic assessment model captures performance by competency across courses, which enables identification of students' strengths and weaknesses, with opportunities for growth in all areas. Few studies have measured the impact of switching from a course-based to a programmatic assessment model and no studies have investigated if there is more confidence in competence decisions as assessment data accumulate.

**Summary of Work:** In AY2017-2018, the University of Utah SOM moved from a course-based to a programmatic assessment model for medical students' year 3 Objective Structured Clinical Exams (OSCEs). Students completed 2-station OSCEs at end of 7 clerkships and received cumulative OSCE domain reports 3 times during year 3 in the areas of history taking, physical examination, clinical reasoning, testing, and documentation. Students also completed a must pass 7-station OSCE at the end of year 3 (EOY3OSCE), but could opt-out if their cumulative OSCE performance met a threshold. Cumulative clerkship OSCE domain scores at times 1 and 3 were correlated with EOY3OSCE scores for 110 students to see if the strength of relationships increased as assessment data accumulated.

**Summary of Results:** Correlations between clerkship OSCE and EOY3OSCE scores were small ( $< 0.30$ ) for all domains at time 1. Correlations were moderate for history taking (0.43), physical examination (0.35), and documentation (0.43) and small for clinical reasoning and testing at time 3.

**Discussion and Conclusions:** As OSCE data accumulate we can be moderately confident in our ability to make competence decisions about students' history taking, physical exam and documentation skills. More data points or additional types of assessment are needed for students' clinical reasoning and ability to interpret tests.

**Take-home Messages:** As medical schools move to programmatic assessment, it is important to understand how many data points are needed to determine competence. The results of this study suggest the number of assessment data points needed to determine competence may vary depending on the OSCE domain.

## #51 Short Communications - Assessment - OSCE 2

515 (427)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room L2, Level 1

### Video-based examiner score comparison and adjustment (VESCA): measuring the influence of different examiner-cohorts in fully-nested OSCEs

#### AUTHOR(S):

- Peter Yeates, Keele University, UK (Presenter)
- Alice Moulton, Keele University, UK
- Natalie Cope, Keele University, UK
- Gareth McCray, Keele University, UK
- Bob McKinley, Keele University, UK
- Richard Fuller, University of Leeds, UK

#### ABSTRACT

**Background:** Whilst ensuring equivalence of examiners' judgements in Objective Structured Clinical Exams (OSCE) is critical to assessment validity and fairness, most OSCEs involve multiple different groups of examiners, either in parallel circuits or distributed locations. Despite prior research suggesting different 'examiner-cohorts' may importantly influence OSCE outcomes, the potential for these effects are rarely considered chiefly due to the limitations imposed by fully 'nested' designs (no crossover between student performances seen by different examiner-cohorts). As these effects could importantly bias distributed or national exams we report the development of an intervention to measure and adjust for examiner-cohort effects in fully nested OSCEs.

**Summary of Work:** Across two studies we developed 'Video-based Examiner Score Comparison and Adjustment' (VESCA): 1. Volunteer students were unobtrusively filmed on most stations during their year 3 OSCE. 2. Additionally to live examining, all examiners (8 cohorts of 12 examiners in each study) were invited to score 2-4 station-specific, comparator videos of students' performances. This produced partial crossing. 3. Global scores and total percentage scores were respectively analysed using Many Facet Rasch Modelling (MFRM) and linear mixed modelling (LMM) to estimate the influence of examiner-cohorts on students' scores. Adjusted 'fair scores' were calculated for each student, and influence on students' categorisation examined.

**Summary of Results:** Live and video scores were equivalent. Student ability varied by 29%,  $sd=5.4\%$ . Examiner-cohorts varied in their scoring of the same ability of students by up to 5.7% (Cohen's  $d=1.06$ ) suggesting a substantial effect. Adjustment of scores around an artificial pass mark produced a change in classification for 6% of students (fail to pass or vice versa), whilst 9.5% of students' scores changed by at least 0.5 standard deviations of student ability.

**Discussion and Conclusions:** Larger effects could potentially be seen between sites in distributed OSCEs, challenging the assumption of equivalence of assessments. Further research should determine: sampling requirements; the influence of other potential biases (contrast effects, rater-drift, idiosyncrasy); and the accuracy of estimates.

**Take-home Messages:** VESCA offers a promising method to measure and adjust for examiner cohort effects. Once validated, VESCA could potentially enhance the equivalence of high-stakes judgements in distributed or even national exams.

## #51 Short Communications - Assessment - OSCE 2

516 (2407)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room L2, Level 1

### Inter-rater agreement between direct examiners and examiners viewing video recordings in veterinary medicine OSCEs

#### AUTHOR(S):

- Jean-Yin Tan, University of Calgary Faculty of Veterinary Medicine, Canada (Presenter)
- Irene Ma, University of Calgary Cumming School of Medicine, Canada
- Grace Kwong, University of Calgary Faculty of Veterinary Medicine, Canada
- Emma Read, The Ohio State University College of Veterinary Medicine, USA

#### ABSTRACT

**Background:** Assessments of video recordings of student performances may improve efficiency and inter-rater consistency in Objective Structured Clinical Examinations (OSCEs) compared to live assessments. However, how live assessments compare to video-based assessments is unknown. The study seeks to compare scores from live examiners with those from video examiners in a Doctor of Veterinary Medicine program OSCE. The hypothesis is that there is no significant difference in scoring between the two formats.

**Summary of Work:** Students (n=33) were assessed by live (n=9) examiners in a three-station OSCE. Performances were video-recorded and assessed by video examiners (n=5). The 3 stations assessed the following skills: inverting suturing, elbow arthrocentesis, and thoracocentesis. Binary checklists were used to determine pass/fail results.

**Summary of Results:** Based on modified Fleiss' Kappa, overall examiner agreement for pass/fail grading was 0.82 for suturing, 0.56 for arthrocentesis, and 0.76 for thoracocentesis. Overall reliability of the stations was moderate for suturing and arthrocentesis (Cronbach's alpha 0.45 and 0.51 respectively) and fair for thoracocentesis (0.34). Using a Chi-squared test, overall there was no significant correlation between pass/fail outcome and live vs video examiners (p=0.55). Using a generalized linear mixed effects model adjusting for stations, stations (p<0.001) and interaction between station and type of examiner (p=0.03) had statistically significant effects on pass/fail outcomes. The odds of passing a given station did not differ between live vs video examiners (p>0.16) on pair-wise comparison. However, amongst video examiners, candidates had increased odds of passing suturing as compared to both arthrocentesis (odds ratio OR=4.87, p=0.01) and thoracocentesis (OR=6.01, p<0.01).

**Discussion and Conclusions:** Overall examiner agreement varied by station, from moderate to almost perfect agreement. Live assessments did not differ significantly from video-based assessments. However, stations and the interaction with live vs video examiner had statistically significant effects on pass/fail outcomes, with increased odds of passing the suturing station within video-based assessments.

**Take-home Messages:** The study concludes that there were no significant differences in the scoring between live and video examiners, although there were statistically significant station-specific differences among video examiner scores in veterinary OSCEs. Reasons for these differences need to be further explored.



## #5J Short Communications - Teaching and Learning - Lecture/Flipped Classroom

5J1 (2253)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.31-32, Level 0

### Sharing the presentation before lecture increases students' interest

#### AUTHOR(S):

- Süleyman Yildiz, Dicle University Faculty of Medicine, Turkey (Presenter)
- Abdullah Yildiz, Istanbul Sailik Bilimleri Universitesi Umraniye Eitim ve Aritirma Hastanesi, Turkey
- Emine Ienkal, Maastricht University, The Netherlands
- Ece Nur Çinar, Yeditepe University, Turkey

#### ABSTRACT

**Background:** According to studies, computer-generated presentations affect learning positively when students access a copy of lecture slides before they enter the class. However, some teachers may be concerned that if slides are made available to students, they will use them as a substitute for attending class.

**Summary of Work:** The aim of this study was to determine whether teachers are right in their fears. A cohort study was conducted between 298 medical students in the term 2018-2019.

**Summary of Results:** Analysis per discipline revealed a positive correlation between average slides availability before lectures and average attendance ( $p < 0.05$ ). Mean attendance at lectures with slides available before class lectures was twice the mean attendance at lectures without slides available before (69% vs 31%,  $p < 0.001$ ).

**Discussion and Conclusions:** Making lecture slides available for students before the lecture can actually increases student attendance and participation, especially for first and second year courses. Improved attendance, better participation because of the reduced notetaking effort, and slightly better exam performance are also likely if slides are provided before class.

**Take-home Messages:** Whether slides are available before or after the lecture makes a difference.

## #5J Short Communications - Teaching and Learning - Lecture/Flipped Classroom

5J2 (852)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.31-32, Level 0

### Creating Context To A Neonatal Placement With Flipped Online Resources

#### AUTHOR(S):

- Hannah Massey, Norfolk and Norwich University Hospital, UK (Presenter)

#### ABSTRACT

**Background:** 4th year undergraduate medical students at our institution spend one week on the neonatal unit as part of their paediatric attachment. During this placement they attend deliveries with the neonatal team. The expectation is during this placement students understand how to care for a neonate at birth and why the approach to resuscitation is so different. However, despite good exposure to new-born resuscitation, students were struggling to learn. We decided to curate a set of online resources to improve learning while not adding to an already full timetable.

**Summary of Work:** 50 fourth year students participated in an attachment on the neonatal unit. The first rotation of 25 students undertook the standard placement. The second 25 students spend 10 minutes engaging with targeted online material prior to their attachment. Evaluation of both rotations was undertaken 4 weeks post placement using Kirkpatrick's framework. Students undertook multiple choice questions (not directly linked to pre-attachment material), a skills test and rated their enjoyment of the placement.

**Summary of Results:** 22 students undertook the evaluation in rotation 1 and 23 in rotation two. Students rated enjoyability on a Likert scale where 1 was least enjoyable and 5 most enjoyable. In the second rotation 60% of students gave the placement 5 compared with 17% in the preintervention group. Mean MCQ score was 45% pre-intervention and 60% post-intervention. Evaluation of airway skills is shown below

**Discussion and Conclusions:** The students who spent 10 minutes engaging with pre-course material prior to the weeklong placement had higher MCQ scores, better airway skills and enjoyed the placement more. The pre-course material gives the students context to what they are seeing in the delivery room. This transforms passive observation into engaged observation. Engagement with the task allows the students to become legitimate peripheral participants within the team and stimulates learning. Perhaps we need to think more closely about how we create context prior to clinical encounters. Is a block of lectures followed by a hospital placement the best way to do this? Perhaps we need to create context temporally to the ward learning events.

**Take-home Messages:** Ward placements as well as classroom based lectures can be supported with flipped materials.

## #5J Short Communications - Teaching and Learning - Lecture/Flipped Classroom

5J3 (1097)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.31-32, Level 0

### Flipped classroom is significantly effective for medical students to learn medical interview

#### AUTHOR(S):

- Eiji Kaneko, Tokyo Medical and Dental University, Japan (Presenter)
- Yasuko Abe, Tokyo Medical and Dental University, Japan

#### ABSTRACT

**Background:** The medical interview is one of the most important techniques for medical students. In flipped classroom (FC), students watch video materials before class as homework and spend more time in discussion or practical training in the classroom. In our previous study, we made a new FC program of medical interview and compared the effectiveness of the program with the traditional program (T) in randomized small group of students (n=14). The result showed FC students performed better but it was not significant due to the limited number of students. In this study, we introduced a new FC program for fourth-year students and evaluated its effectiveness compared to that of the fourth-year students in the previous year.

**Summary of Work:** Fourth-year medical students (n=105) performed medical interviews of simulated patients in the new FC program in November. Students attended a half-hour lecture and watched an 18-minute video, which showed every step of the medical interview, before class. In the previous year, fourth-year students attended one-hour lecture and read the syllabus before class. Students practiced medical interviews in turn and discussed about their performances, which were video-recorded and evaluated using checklists later. Students also answered the questionnaire. T-test was used for statistics. This study was approved by ethical committee of the university and supported by grant from JSPS.

**Summary of Results:** According to the questionnaire survey, 63% of the students watched the video carefully, 30% watched through the video, 2% skipped through the video, while 5% did not answer. For 84% of the students, the video program was easy or very easy to understand. The scores of the medical interview (n=48) were significantly higher in FC (24.3±2.9 in FC vs 21.0±4.1 in T, p=0.003).

**Discussion and Conclusions:** Since the previous study showed better results in FC, we decided to introduce FC for fourth-year students. The scores of the medical interview improved significantly in FC group. Results of CBT and OSCE in February will show if the two classes are similar in general, and if educational benefit in FC last for three months. These issues will be discussed in the presentation.

**Take-home Messages:** The new FC program showed significantly better educational effect for medical interview.

## #5J Short Communications - Teaching and Learning - Lecture/Flipped Classroom

5J4 (1663)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.31-32, Level 0

### A Lecture a Day Keeps a Medical Student Engaged

#### AUTHOR(S):

- Aaron Brown, American University of the Caribbean, USA (Presenter)
- Chukwuemeka Ajufo, American University of the Caribbean, USA
- Mark Quirk, American University of the Caribbean, USA

#### ABSTRACT

**Background:** The advent of pocket computers has provided a substantial benefit to students, the ability to learn literally anywhere. Previous research has shown that students who utilize mobile learning score higher on Multiple Choice Question assessments and study more consistently (Last LK Study). In order to optimize this powerful learning tool, the usage habits of learners provides valuable information for educators. With this research study we sought to understand what are the habits of medical students who listen to podcasts to learn.

**Summary of Work:** Over a year long period, medical students who used a medical podcasting app, LectureKeepr, were followed to assess how long students tend to listen, what speed students listen to lectures, where students like to listen (traveling, working out, studying, etc), matched demographic information such as gender and GPA.

**Summary of Results:** Responses from 115 students over the period of February 2018 to February 2019 were collected. The most common speed students liked to listen to lectures is 1.5x. The GPA of students ranged from 2.0 to 4.0 in this study. Most students listened while traveling, followed by working out, followed by studying. Students spent an average of 36 minutes listening to lectures when they used the app.

**Discussion and Conclusions:** The student who listen to lectures, tends to do so on the go. While the half hour average listening time is not a large proportion of the day, it may represent an extra 30 minutes that students are spending studying instead of listening to music or not listening to anything at all.

**Take-home Messages:** Podcasting medical lectures offers a robust and effective way to engage students and encourage consistent learning. Because of their ease and accessibility, apps like LectureKeepr represent an important part of the adaptive curriculum. Future research should apply these optimizations to educational podcasts and analyze learner outcomes.

## #5J Short Communications - Teaching and Learning - Lecture/Flipped Classroom

5J5 (2049)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.31-32, Level 0

### Twitch'ing medical education - the potential of live stream lectures

#### AUTHOR(S):

- Thomas Shiozawa, Institute of Clinical Anatomy and Cell Analysis, University of Tuebingen, Germany (Presenter)
- Martina Bientzle, Leibniz Institut für Wissensmedien, Germany
- Johannes Grosser, Leibniz Institut für Wissensmedien, Germany
- Joachim Kimmerle, Leibniz Institut für Wissensmedien, Germany
- Bernhard Hirt, Institute of Clinical Anatomy and Cell Analysis, University of Tuebingen, Germany

#### ABSTRACT

**Background:** Digitalization of teaching starts with new formats. The internet platform Twitch and its rapid development demonstrates the possibilities of live-streaming, and how entertainment works for the next generation. In 2014 Twitch had already become the fourth biggest source for internet traffic in the U.S. [1], in 2018 Twitch hosted 2m broadcasters monthly and about 15m viewers per day [2]. Is there potential in using this format for teaching purposes?

**Summary of Work:** With the webpage [www.sectio-chirurgica.de](http://www.sectio-chirurgica.de) the Institute of Clinical Anatomy and Cell Analysis Tuebingen hosts a live streaming platform for interdisciplinary, interactive teaching that has been online for 10 years so far. The OpenTeach project investigates the potential of this innovative online teaching format. One of the research questions is, whether the key factors for successful live streaming - consistency, know-how, entertainment, interaction - can also be applied to a teaching format.

**Summary of Results:** Live streams at regular intervals lead to a consistent number of viewers. The audience can be actively involved in live formats. A live chat that can be accessed by everybody using their own device is more accessible than sitting in a lecture hall with 200 students. Chat activity can be influenced positively by the moderator's/lecturer's interaction.

**Discussion and Conclusions:** There is great potential in the use of live streaming for teaching. On Twitch learning and information are also motivational factors for viewers [3]. Streaming is perceived as an educational format [4].

**Take-home Messages:** The new generation is raised on new entertainment formats that can be utilized for teaching and even further.

Literature: [1] Wall Street Journal chart lists Twitch.tv fourth in U.S. peak traffic. Wall Street Journal via on Gamers. 5 Feb 2014. Retrieved 10 Feb 2014.

[2] <https://techcrunch.com/2018/02/06/twitch-now-has-27k-partners-and-150k-affiliates-making-money-from-their-videos/>

[3] Hamilton WA, Garretson O, Kerne A. Streaming on twitch: Fostering participatory communities of play within live mixed media. CHI 14 proceedings of the SIGCHI conference on human factors in computing systems, ACM, New York (2014), pp. 1315-1324

[4] Payne K, Keith MJ, Schuetzler RM, Giboney, JS. Examining the learning effects of live streaming video game instruction over Twitch. Computers in Human Behavior 2017(77):95-109.



## #5J Short Communications - Teaching and Learning - Lecture/Flipped Classroom

5J6 (1587)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.31-32, Level 0

### Student moderators' use in lecture capture programs in multiple first semester courses increase student response rates and knowledge retention

#### AUTHOR(S):

- Phillip Pearson, American University of the Caribbean, Sint Maarten (Presenter)
- Douglas Burns, American University of the Caribbean, Sint Maarten
- Mark Quirk, American University of the Caribbean, Sint Maarten

#### ABSTRACT

**Background:** Previous research by the authors demonstrated that in one course, use by students and course director of a question and answer (Q&A) function of a lecture-capture video platform increased quiz scores and comprehension of subject material compared to controls. Subsequent research showed that student moderators who led online discussion using the Q&A function increased student dialog and exam scores and knowledge retention. The present paper examines the effectiveness of these teaching/learning interventions across a diverse set of basic science courses in a semester.

**Summary of Work:** Students (n=134) in anatomy, embryology, histology, and molecular cell biology courses participated in the study. Students were first incentivized to participate in the Echo 360 Q&A function by lecturer demonstrating its ability to increase exam scores and comprehension. Six student moderators responded to questions on the Q&A function in all courses. To better understand the relationship between the intervention and performance, MCQ exam items were mapped to the quantity and quality of Q&A activity by students. Overall performance on the exam items in the courses with moderators was compared to performance on similar items in a cohort that did not have student moderators or used the Q&A function.

**Summary of Results:** After extensive incentivization, Q&A use increased and continued at that elevated level in all courses. Students responded to question threads by asking additional questions and not just responding to questions or reading what other students had asked. Interdisciplinary questions that spanned all three courses were evident. Perceived quality of Q&A questions dramatically increased and correlated with the frequency of responses in all three classes.

**Discussion and Conclusions:** The act of self-questioning has been linked to deep vs. surface learning. Student moderators increased its adaption by all three classes and correlated with increased students use.

**Take-home Messages:** The use of Q&A function was considered to be of great value and was used significantly by students.

## #5K Short Communications - Junior Doctor as Teacher

5K1 (3471)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.14, Level 0

### Development of a Medical Education Scholarship Track Within A Residency Career Enrichment Program

#### AUTHOR(S):

- Holly Caretta-Weyer, Stanford University School of Medicine, USA (Presenter)

#### ABSTRACT

**Background:** Many emergency medicine (EM) residents identify an interest in teaching and medical education during residency. Several residency programs have developed concentrations or elective tracks to address these interests. However, medical education is becoming increasingly challenging secondary to the growing complexity of practice and the growing roles within medical education ranging from clinical teacher, to educational administrator, to clinician educator, or even education researcher.

**Summary of Work:** We sought to design and implement an education scholarship track within our residency career enrichment program spanning all four years of training to address the full range of roles and allow our residents the opportunity to develop a scholarly niche within medical education. Following Kern's model for curriculum development, we performed a literature review and utilized published models for education scholarship fellowships as a guide. We additionally performed a targeted needs assessment of our residents regarding their interests within medical education scholarship. As part of the needs assessment, residents also wanted to ensure that there was room for individualization within the curriculum such that they could tailor the track to their individual interests.

**Summary of Results:** The needs assessments provided the following topics for inclusion in the medical education scholarship track: resident as teacher, education theory, presentation skills, small group facilitation, team-based and problem-based learning, curriculum development, assessment, competency-based medical education, program evaluation, education research methods, survey development, study design, manuscript writing, grant writing, and peer review. Goals and objectives were developed for each topic course.

**Discussion and Conclusions:** Eight residents have joined the education scholarship track since the beginning of this academic year. Each of them has chosen a different route depending upon his or her interests. Several have focused on clinical teaching while others have focused on areas within the clinician educator niche such as curriculum development and assessment. Two residents have pursued education research projects, one focusing on qualitative methods to investigate psychological safety in feedback and the other focusing on resident communication with patients. Both of these projects will be submitted to education research journals upon completion.

**Take-home Messages:** An education scholarship track within a residency enrichment program provides opportunities for residents professional development across the continuum of medical education.

## #5K Short Communications - Junior Doctor as Teacher

### 5K2 (1329)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.14, Level 0

### Longitudinal workshops of residents-as-teachers based on teaching EPAs had a high satisfaction for residents

#### AUTHOR(S):

- Tadayuki Hashimoto, Hashimoto Municipal Hospital, Japan (Presenter)
- Makoto Kikukawa, Kyushu University, Japan
- Junji Otaki, Hokkaido University, Japan
- Junichi Taniguchi, Kumamoto University, Japan
- Synsuke Kosugi, Iizuka Hospital, Japan
- Takashi Kanazawa, Kyushu University, Japan

#### ABSTRACT

**Background:** Residents play a pivotal role in clinical education. However, no teaching competencies for residents existed. The authors reported teaching competencies for residents using the Delphi method at AMEE 2016, and it's entrustable professional activities (EPAs) at AMEE 2018. We have held longitudinal workshops over a year to establish those competencies.

**Summary of Work:** We arranged eight workshops in total. Participants included nine medical residents and one young attending physician from a Japanese teaching hospital. At the end of each workshop, questionnaires about the quality of workshops were collected. They also answered another questionnaire about the adequacy of the topics after the final workshop.

**Summary of Results:** The overall response rate of each workshops was 85.3%. The answer of 'Was this workshop helpful for you?' was 4.64 (Likert scale 1-5). The response rate of the questionnaires about the topics was 70.0%. The answer of 'Do you think this topic is adequate for you as residents?' was 4.77.

**Discussion and Conclusions:** The participants were satisfied with these longitudinal workshops and regarded topics as adequate for them. We believed the reason is that these workshops were constructed using the competencies summarized by stakeholders using the Delphi method, which are likely to have strong needs.

**Take-home Messages:** To establish the teaching competencies of residents, a longitudinal workshop can be an important method.

## #5K Short Communications - Junior Doctor as Teacher

5K3 (847)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.14, Level 0

### Senior residents as role models: A phenomenographic study

#### AUTHOR(S):

- Kuo-Chen Liao, Chang Gung Memorial Hospital, Taiwan (Presenter)
- Chang-Hsuan Peng, Chang Gung Medical Education Research Center, Taiwan
- Chien-Da Huang, Chang Gung Memorial Hospital, Taiwan
- Chang-Chyi Jenq, Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Senior residents are entrusted to teach and serve as role models within the clinical workplace. Research on role models has centered on personal attributes and strategies to enhance role-modeling skills. This study aims to fill the gap by investigating medical trainees' different conceptions of senior residents as role models.

**Summary of Work:** This qualitative study adopted a phenomenographic approach. Data were gathered through individual interviews with twelve participants (three senior residents, five PGY trainees, two 5th-year and two 7th-year medical students) and field notes taken by a researcher-observer documenting clinical practice and teaching interactions between these participants in an internal medicine context.

**Summary of Results:** Participants described senior residents' role modeling through their teaching as a 'ward guardian', taking major responsibility for the supervision of junior trainees' clinical practice, ensuring patient care quality and ward operation. Within this main category, four interrelated positions were described: problem solver, interpersonal communicator, learning facilitator and life story narrator.

**Discussion and Conclusions:** Our findings presented various conceptions of the positions embodied in senior residents as role models in clinical teaching practice. Upon fulfilling these positions, senior residents can enhance trainees' professional development: including their clinical reasoning skills, medical problem solving, teamwork communication, and support trainees' identity formation in the clinical learning environment.

**Take-home Messages:** By adopting phenomenography, a better understanding about the phenomenon of how senior residents influence the learning of medical trainees through role modeling can be provided. The results can be useful to enable and support change in curricular design of residents-as-teachers programs and, furthermore, inform senior residents' practice as role models.

## #5K Short Communications - Junior Doctor as Teacher

### 5K4 (299)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.14, Level 0

### From amateur to Osler: Teaching residents the fundamentals of clinical instruction using humour and game-based learning

#### AUTHOR(S):

- Fawzia Huq, University of Sydney, Australia (Presenter)
- Sarah Aitken, University of Sydney, Australia

#### ABSTRACT

**Background:** As senior clinician responsibilities increase, training junior doctors (residents) to be effective clinical teachers becomes imperative. The near-peer literature suggests that residents not only impart knowledge and skills to medical students, but vitally model professional values and behavior. We have pioneered an innovative, evidence-based, clinically oriented resident-as-teacher program using humour and interactive games. The aim of the program is to develop teaching expertise using resources that are readily available in most hospitals; with the long term goal of preparing novice clinicians for formal medical student instruction.

**Summary of Work:** The teaching course is designed with an emphasis on humour and games. Two facilitators run the course over four weeks. The only resources required are a room with basic audiovisual facilities. The bi-annual course is delivered locally, and has also been presented internationally to medical faculty and students at the University of Copenhagen. Course efficacy is assessed using Irby's clinical teaching effectiveness scale to measure pre/post changes in self-rated teaching ability; and focus groups to ascertain course strengths and weaknesses. Four domains of clinical teaching are emphasized: 1. Understanding how adults learn 2. Setting realistic learning objectives 3. Teaching clinical reasoning 4. Giving effective feedback

**Summary of Results:** After completing the course, residents report a significant improvement in the domains of instructional clarity and organization, instructor knowledge, instructional skill and clinical supervision. Over 90% of residents agree / strongly agree that the program stimulates interest in teaching, improves confidence, is well organized, has clear learning goals, and should be delivered to other residents.

**Discussion and Conclusions:** Our 3-year experience suggests that humour and games are valuable tools when designing a resident teaching program. The clinical reasoning module which is taught using games is particularly effective, as residents report an improved understanding of their own reasoning strategies. Greater teaching confidence and the ability to identify and address gaps in students' reasoning are reported positive outcomes of the course.

**Take-home Messages:** A low-resource, short, effective, resident training program delivered using humour and games greatly enhances resident teaching confidence and skill.



## #5K Short Communications - Junior Doctor as Teacher

**5K5** (1884)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.14, Level 0

### Near peer teachers GP Specialty Trainees (GPSTs) as Teachers and career path finders

#### AUTHOR(S):

- **Melvyn Jones, UCL, UK (Presenter)**
- Liza Kirtchuk, Kings College London, UK
- Joe Rosenthal, UCL, UK

#### ABSTRACT

**Background:** Junior doctors are key providers of medical student teaching in hospital settings, yet rarely do so in primary care as part of their GP specialty training. There is evidence that the reduced distance between teacher & learner in such near-peer teaching (NPT) fosters learning (Ten Cate & Durning). However, postgraduate (PG) medical training is situated in an 'externally regulated learning' environment where self-regulated and externally regulated learning interact to influence students' learning. (de la Fuente) GP training schemes in N. London offer 6 month Innovative Training Posts (ITP) for GP specialist trainees (GPSTs) combining their clinical training with regular student teaching.

**Summary of Work:** We evaluated this educational innovation to explore the impact on GPSTs & their students. We carried out focus groups and semi-structured interviews with the GPSTs, their students & stakeholders in GP education (education leads), to explore the perspective of GPSTs as UG teachers. Interviews were transcribed & data thematically analysed; deductively from Ten Cate & inductively from our novel data.

**Summary of Results:** Data were obtained from 26 individual stakeholders. We identified elements of role modelling and socialization into the discipline, and identified the role of external regulated learning. All stakeholders perceived tangible benefits to students from NPTs; they adopted more student centred approaches and were more likely to take on board students' immediate goals, contrasting with senior doctors (social congruence). Students valued GPSTs' generalist clinical expertise, who could make explicit their knowledge of medicine. GPSTs expressed benefits to their own development, forming their identity as learners & teachers. GPSTs & educational stakeholders explored this acquisition of 'expertise'. The role of education; both teaching & learning for GPSTs was key; articulated as 'to teach something well is to understand it well'. GPSTs also provided students with sign posting for GP careers.

**Discussion and Conclusions:** Formalised near peer teaching in GP for students is relatively novel (Rushforth). There are strong educational benefits to learners & teachers, while not disrupting GPSTs own training.

**Take-home Messages:** Near peer learning provided by GPSTs to students aids their learning and role modelling and is accepted (and encouraged) by senior educators.

## #5L Short Communications - Student - Peer Assisted Learning

### 5L1 (2644)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room L7, Level 1

### Does qualification as PAL (peer-assisted learning) student tutor enhance CanMEDS role acquisition? A survey analysis on why medical students should learn how to teach

#### AUTHOR(S):

- Daisy Rotzoll, Skills and Simulation Centre LernKlinik Leipzig, University of Leipzig, Medical Faculty, Germany (Presenter)
- Maike Brathuhn, Department of Paediatrics, Leipzig University Hospital, Germany

#### ABSTRACT

**Background:** CanMEDS is a widely accepted framework identifying and describing the abilities physicians require to effectively meet health care needs of the people they serve. The aim of undergraduate medical curricula is conveying these roles (medical expert, communicator, collaborator, leader, health advocate, scholar and professional) to nurture future competent physicians. We hypothesized that the implementation of peer-assisted learning (PAL) modules for undergraduate medical student tutors may be supportive for internalizing these roles in future doctors. In our study, we therefore investigated if former peer student tutors working at the Skills and Simulation Centre who underwent a structured student-as-teacher (SAT) training program and had prolonged experience in giving PAL sessions retrospectively saw their peer-student-tutor career as helpful in developing CanMEDS competencies, as compared to the impact of their general undergraduate medical curriculum.

**Summary of Work:** A questionnaire was developed and n=31 former peer student tutors meeting the defined inclusion criteria were contacted. N=14 questionnaires were turned in and analyzed. Questions focused on former PAL student tutor experience and possible impact on the development of the seven CanMEDS roles, as compared to the impact of their undergraduate medical curriculum in general.

**Summary of Results:** When regarding all seven CanMEDS roles, former peer student tutors answered that the role of collaborator, followed by the role of communicator were the two roles most positively influenced by their activities at the Skills and Simulation Centre, followed by the roles of professional, medical expert and manager. Least influence on roles of health advocate and scholar were determined. When regarding the overall undergraduate medical curriculum, peer student tutors felt that the development of CanMEDS roles were less well conveyed, with the exception of the medical expert role.

**Discussion and Conclusions:** The reported study suggests that experience as a PAL student tutor at a Skills and Simulation Centre during medical undergraduate studies supports the development of CanMEDS roles required for work in postgraduate residency programs. All former PAL tutors valued their experience as being important for their future personal and professional development.

**Take-home Messages:** This study suggests that teaching experiences as a PAL student tutor can enhance competency development of CanMEDS roles in future physicians.

## #5L Short Communications - Student - Peer Assisted Learning

### 5L2 (92)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room L7, Level 1

### Peer-led mock Objective Structured Clinical Examination (OSCE): an efficacious tool in supporting students through a transition curriculum

#### AUTHOR(S):

- Wesley Channell, School of Medicine, University of Leicester, UK (Presenter)
- Arjun Nehra, School of Medicine, University of Leicester, UK
- Neil Thakrar, School of Medicine, University of Leicester, UK
- Rachel Westacott, Department of Medical Education, University of Leicester, UK

#### ABSTRACT

**Background:** Leicester Medical School is currently undergoing curriculum reform. This has resulted in a unique cohort who have undergone a new but truncated third year, relative to subsequent cohorts. Fourth year medical students led the development of a mock OSCE, in collaboration with medical school faculty, to help this cohort practise competences expected in clinical examinations.

**Summary of Work:** A 12-station mock OSCE, endorsed and financially supported by the medical school, was run over one weekend in the university examination setting. The OSCE was entirely designed by fourth year medical students, including station content, which was reviewed by the medical school. Stations mirrored those within the summative examination, and examiners received a briefing about exam conduct. Questionnaires were given out immediately after the mock OSCE. The impact of each station on students' preparedness was evaluated with paired sample t-tests and qualitative responses were organised into recurring themes. A second survey looking at student-perceived utility on summative exam performance is currently being undertaken and results will be added to this presentation.

**Summary of Results:** Of 127 attendees, 112 returned completed feedback (88%). All logistical components of the OSCE were ranked as greater than 4.5/5 on a Likert scale. A statistically significant improvement in student-perceived preparedness was demonstrated in all OSCE stations ( $p < 0.001$ ), with stations where students felt least prepared, such as fluid management, exerting the greatest positive impact. Event organisation ( $n=40$ ) and level of examiner knowledge ( $n=26$ ) were the most frequently praised attributes. Extended feedback time ( $n=9$ ) and additional stations ( $n=9$ ) were the most frequently cited areas for improvement.

**Discussion and Conclusions:** Peer-led assessment of practical examinations improves students' confidence in the context of a new assessment structure. Endorsement by the medical school assures the development of reliable content and enriches the preparation of student examiners, whose knowledge and experience is highly esteemed by their peers.

**Take-home Messages:** Although dealing with a mid-course curriculum change is challenging for students, collaboration between faculty and student groups can result in well organised peer-led assessment practice and increased candidate confidence entering summative examinations.

## #5L Short Communications - Student - Peer Assisted Learning

### 5L3 (721)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room L7, Level 1

### Near peer mentoring on allied health placements: a systematic review

#### AUTHOR(S):

- Joanna Tai, Deakin University, Australia (Presenter)
- Merrolee Penman, University of Sydney, Australia
- Gretel Evans, Westmead Hospital, Australia
- Jennie Brentnall, University of Sydney, Australia
- Belinda Judd, University of Sydney, Australia

#### ABSTRACT

**Background:** Near-peer mentoring (NPM) during allied health clinical placements may afford benefits, including improving placement experiences, improving learners' clinical capabilities, altering the workload of clinical supervisors, and importantly, preparing allied health students for future clinical educator roles after graduation. There is likely also benefit to educators, in terms of enjoyment, workload alteration, and additional information on student performance. Service users may benefit where students can contribute to caseload management. However, benefits to allied health students, supervisors and service users are currently unclear, as studies providing evidence for near-peer mentoring have primarily occurred in medicine and nursing.

**Summary of Work:** A narrative systematic literature review was conducted to identify benefits of NPM for allied health students, their educators, and service users. Keyword searches across CINAHL, ERIC, EMBASE, Scopus, Proquest Education, Medline and PsycInfo identified 2738 articles, which were screened for relevance and quality by two researchers. 9 papers were included in the final analysis.

**Summary of Results:** Included studies were in the fields of physiotherapy, occupational therapy, pharmacy and psychology. Some contained cross-discipline mentoring; others focussed on senior and junior students within the same or similar professions. Studies were largely exploratory or evaluative, with a focus on student satisfaction and perceived learning outcomes, from student and supervisor perspectives. No paper directly focussed on service user outcomes, or assessed students' subsequent performance. Students perceived that learning opportunities were maximised, and that NPM developed knowledge, communication skills, and education skills, while providing a supportive environment.

**Discussion and Conclusions:** The small number of relevant studies across allied health suggest this is an emerging area of interest, with studies exploring proof of concept rather than impacts on short and longer-term learning. While the evidence to date is promising, additional empirical work should ascertain learning benefits.

**Take-home Messages:** NPM is a feasible pedagogical strategy for clinical placements, which results in student satisfaction. Future studies could focus on both positive and negative outcomes, and include objective performance measures to provide stronger evidence for NPM.

## #5L Short Communications - Student - Peer Assisted Learning

### 5L4 (979)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room L7, Level 1

### Peer Assisted Learning: Exploring A Vertical Approach

#### AUTHOR(S):

- Elaine Koh, Monash University, Australia (Presenter)
- Michael Wang, Monash University, Australia
- Vivien Lai, Monash University, Australia
- Linly Liu, Monash University, Australia
- Kit Ming Foo, Monash University, Australia
- Joanna Tai, Monash University, Australia

#### ABSTRACT

**Background:** Vertically Enhanced Study Program Approach (VESPA) Case Nights is a student-led peer assisted learning (PAL) program at Monash University, Australia. Four near-peer PAL events (Case Nights) per year are hosted for all students enrolled in the Bachelor of Medicine/Bachelor of Surgery (MBBS). Each event centres on a student-written clinical case which integrates theoretical and clinical knowledge, as well as clinical skills across year levels. Final and penultimate year students were provided with training to assume the role of peer tutors.

**Summary of Work:** A prospective cross-sectional study used a 30 question instrument with Likert and open ended questions, distributed at the conclusion of three Case Nights in 2018. 21 statements addressed general benefits and potential improvements to VESPA Case Nights, with five to seven statements targeting pre-clinical students, clinical students and peer tutors separately.

**Summary of Results:** A total of 425 questionnaires were collected, with 173 preclinical student, 156 clinical student and 96 peer tutor questionnaires returned. Overall, the majority of participants had overwhelmingly positive views of VESPA. In particular, 85% of peer tutors strongly agreed or agreed that VESPA has provided a rewarding opportunity to 'pay it forward' through medical education while 83% reported that participation increased their likelihood of engaging in medical teaching in the future.

**Discussion and Conclusions:** Senior medical students' responses highlighted their inclination to return the goodwill they have received from the medical community. This desire to 'pay it forward' might be harnessed to further enhance medical education. Participation in PAL may have long-lasting impacts on peer tutors, particularly on attitudes towards and motivation to be involved with, the education of their colleagues and juniors.

**Take-home Messages:** VESPA Case Nights' vertically integrated approach across multiple year levels results in benefits for preclinical and clinical participants beyond a basic peer-to-peer learning model. This study also indicates a need for further inquiry to better understand the attitude of peer tutors and the long-term impacts of PAL involvement.



## #5L Short Communications - Student - Peer Assisted Learning

### 5L5 (913)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room L7, Level 1

### Being a tutor, experience and skills of second-year students of health studies. A qualitative study at the health faculty of Angers, France

#### AUTHOR(S):

- Alexis Racine, Department of General Medicine, Health Faculty, France (Presenter)
- Anne-Victoire Fayolle, Department of General Medicine, Health Faculty, France
- Clément Guineberteau, Department of General Medicine, Health Faculty, France
- Catherine Passirani, Department of PluriPASS, Health Faculty, France

#### ABSTRACT

**Background:** There is an increasing interest in Peer Assisted Learning (PAL) in health studies and abundant literature about PAL during the second cycle of medical studies. However, the literature is weak when it comes to the first years and moreover when it is tutors and not tutees that are the object of study. The main objective of this work was to study the tutors' experience gained during PAL at the faculty of Angers, France. The secondary objective was to describe the skills developed by tutors.

**Summary of Work:** A qualitative study using focus group. Sampling in maximum variation of tutors of the 2017-2018. Maximum variation was obtained via socio-demographic and school criteria. Tutors were recruited at the end of their school year by email. Focus group was facilitated by an evolutionary interview guide, approaching the following themes: experience with PAL; tutor's motivations; tutor's role; limits and difficulties encountered; and skills development.

**Summary of Results:** Data saturation was achieved after three focus groups involving 19 tutors. They have had a positive experience as tutees, motivating them, in turn, to become tutors. Their experience as tutors led them consider themselves as health professionals, teachers and as 'social cohesion' elements. This experience enabled the development of pedagogical skills such as able to transmit their knowledge and their experiences; improve their docimological skills. The tutor's role also enabled the development of expected health professional skills such as a social and relational know-how. Tutors thought they would not have had the opportunity to develop these skills in the regular university curriculum. Tutors coped with their own limits especially concerning their knowledge and a feeling of educational responsibility that was not anticipated by the tutors.

**Discussion and Conclusions:** PAL seemed to have a positive effect on tutors during the first years of health studies. The reciprocity of educational exchanges allowed students to develop their relational and pedagogical skills. However, prior training seemed necessary. It appeared interesting to leave the tutors a constructive space of speech and action with the aim of improving and innovating teaching paths.

**Take-home Messages:** The skills developed by tutors were linked to those expected of a health professional.

## #5M Short Communications - Student Stress

### 5M1 (1466)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.94-95, Level 0

### Students in the Medical Faculty: Associations between social support, social isolation, perceived stress, functional ability and quality of life

#### AUTHOR(S):

- Taina Hintsa, Department of Educational Sciences and Psychology, University of Eastern Finland, Finland (Presenter)
- Anne Monni, University of Eastern Finland/University of Helsinki
- Eeva Pyörälä, Center for University Teaching and Learning, University of Helsinki, Finland
- Marko Elovainio, Department of Psychology and SleepWell Research Program, University of Helsinki, Finland
- Saara Repo, Center for University Teaching and Learning, University of Helsinki, Finland
- Tiina Paunio, Department of Psychiatry and SleepWell Research Program, University of Helsinki, Finland

#### ABSTRACT

**Background:** Medical and dental studies have been asserted to be demanding and stressful. When facing difficulties in studies and exams, social support may alleviate stress and enhance performance. In the present study, we examined whether there were gender differences in experienced social support and social isolation and whether social support and isolation were related to perceived stress, functional ability and quality of life.

**Summary of Work:** A survey instrument for studying students' wellbeing, performance and stress was developed in the Medical Faculty, University of Helsinki in a pilot-study conducted in 2017 among the students of Medicine, Dentistry and Psychology. Data collection continued in 2018 when 825 students responded, also the students of Logopedics and Translational Medicine. Ethical approval was granted by the Research Ethic Board of the Faculty of Medicine.

**Summary of Results:** Women reported higher social support (9.38 vs. 7.84,  $p=0.003$ ) and higher perceived stress (3.53 vs 3.22,  $p=0.008$ ) than men. Men reported higher social isolation than women (0.19 vs. 0.51,  $p=0.006$ ). There was no difference in the level of functional ability or quality of life between the genders ( $p$ -values  $> 0.05$ ). Social support was related to higher functional ability (women:  $r=0.21$ ,  $p$ -value  $<.001$ ; men:  $r=0.22$ ,  $p$ -value  $0.001$ ) and quality of life (women:  $r=0.26$ ,  $p$ -value  $<.001$ ; men:  $r=0.28$ ,  $p$ -value  $<.001$ ). Social isolation was linked to higher perceived stress, lower functional ability and lower quality of life among both genders.

**Discussion and Conclusions:** We observed that social support was an important resource factor for students' wellbeing in the Faculty of Medicine. Enhancing the students' social support and preventing their social isolation are relevant in improving students' wellbeing and performance. Furthermore, the teaching programs need to seek solutions to diminish and prevent the students' social isolation by improving the social support by teachers and peer students and fostering a collaborative culture of learning.

**Take-home Messages:** Lack of social support was related to students' distress. Understanding the connection between social support and students' wellbeing is important in targeting appropriate support for students and in the development of the curricula. Further studies about how to enhance social support are needed.

## #5M Short Communications - Student Stress

### 5M2 (166)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.94-95, Level 0

### Medical Student Mistreatment and Reporting: A Journey

#### AUTHOR(S):

- **Amanda Bell, Niagara Regional Campus, Michael G DeGroote School of Medicine, McMaster University, Canada (Presenter)**
- Catherine Connelly, DeGroote School of Business, McMaster University, Canada
- Allyn Walsh, Department of Family Medicine, McMaster University, Canada
- Meredith Vanstone, Department of Family Medicine, McMaster University, Canada

#### ABSTRACT

**Background:** Over 50% of Canadian medical students report experiencing mistreatment, yet only a small proportion of students report these concerns to school administration. It is unknown how medical students make sense of their experiences of mistreatment and come to decide whether to formally report these experiences. A better understanding of this phenomenon will facilitate changes by the medical school to better support students.

**Summary of Work:** This Constructivist Grounded Theory study interviewed 19 current and former medical students from one institution about their experiences with mistreatment and reporting. Anonymized transcripts were reviewed, coded and theory was developed.

**Summary of Results:** Students undergo a journey surrounding experiences of mistreatment in five phases: Situating, Experiencing and Appraising, Reacting, Deciding, and Moving Forward. Students move through these phases as they come to understand their position as medical learners and their ability to trust and be safe within this institution. Each experience of mistreatment causes students to react to what has happened to them, and then decide if they will share their experiences and reach out for support. They choose if they are going to report the mistreatment, at what cost and for what outcomes. Students continue through their training while incorporating their experiences into their understanding of the culture in which they are learning and continually resituating themselves within the institution.

**Discussion and Conclusions:** This study revealed institutional mistrust from students especially as it related to reporting mistreatment. Interventions designed to support students and decrease exposure to mistreatment may be best focused on increasing organizational trust between students and medical school leadership. Students volunteered mechanisms to support them. Medical school administration should consider how they can increase trust with their learners while identifying areas of concern and procedures for intervening and providing more transparent resolutions.

**Take-home Messages:** Medical students do not always trust that their school is responsive to concerns of student mistreatment. Medical students form informal support networks to deal with mistreatment and their peers play an important role in dealing with the experience. Support for medical students experiencing mistreatment may be best focused on strategies to increase trust that the institution will act on student concerns rather than modifying the existing reporting structures.

## #5M Short Communications - Student Stress

### 5M3 (2328)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.94-95, Level 0

### “Hierarchies are marked”... : Medical students’ mistreatment at a medical school in Mexico City

#### AUTHOR(S):

- Luz María Angela Moreno-Tetlacuilo, Universidad Nacional Autonoma de Mexico, Facultad de Medicina, Departamento de Salud Pública, Mexico (Presenter)
- Nelly Yared Alvarado, Universidad Nacional Autonoma de Mexico, Facultad de Medicina, Departamento de Salud Pública, Mexico
- Nora Ibarra Araujo, Universidad Intercultural del Estado de Mexico, Mexico
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- Antonio Rafael Villa-Romero, Universidad Nacional Autonoma de Mexico, Facultad de Medicina, Departamento de Salud Pública, Mexico

#### ABSTRACT

**Background:** Medical students’ (MS) mistreatment has been informally reported by MS as a pervasive problem at our medical school, mainly in clerkships. This report is part of a wider study we made on gender mistreatment; other types of mistreatment were mention.

**Summary of Work:** Our aim was to describe student's mistreatment not related to gender and fair treatment mentioned in the interviews. This study was authorized by Faculty's Research and Ethical Board. **Methodology:** We carry on an exploratory qualitative research based on symbolic interactionism and gender perspective. We did four focus group and three in depth interviews among male and women MS after written inform consent. Each interview lasted around 90 minutes; all of them were videotaped, recorded and transcribed, codified by grounded theory and analyzed through a feminist education perspective.

**Summary of Results:** We found other types of mistreatment not related to gender. Good treatment was narrated too. Mistreatment: hierarchy was pointed out as the main cause of inequality and mistreatment, mainly in the surgery clerk ship and emergency room; residents become perpetrators along the residency years. MS narrated: constant disqualification and disparaging remarks, verbal mistreatment, bad manners, not being allowed to sit, not to get their meals on time or go to the toilet, public humiliation in front of patients, not being taken into account. Department's chiefs tolerated this conduct. MS don't get support by Faculty, they endure mistreatment alone. Depression, isolation, weight loss were among health affections. MS mention companionship among interns to protect each other from punishment (being held in hospital for several days). Fair treatment: Support from some attending (younger ones) and hospital's head in favor of some female Medical Students (FMS) who bear sexism and gender-sexual harassment was mention as well as acknowledgment to FMS' skills and competence. Younger attending were cited as accessible, less hierarchical

**Discussion and Conclusions:** Institutional structure violence was observed. Students assessed violence as a personality feature and not as a socially structured problem. Mistreatment has negative consequences in medical students well being including their health.

**Take-home Messages:** Violence against MS is an educational and social problem that most be attended.

## #5M Short Communications - Student Stress

### 5M4 (1505)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.94-95, Level 0

### A qualitative exploration of medical students' experiences of shame

#### AUTHOR(S):

- William Bynum, Duke University School of Medicine, USA (Presenter)
- Lara Varpio, Uniformed Services University of the Health Sciences, USA
- Pim Teunissen, Maastricht University School of Health Professions Education, Netherlands

#### ABSTRACT

**Background:** Shame is a powerful emotion that occurs in response to negative events such as medical error or failure to achieve a personal expectation. Medical school poses a unique set of challenges for students, such as complex team dynamics, perceived inadequacy in clinical knowledge, and frequent transition periods. Each of these challenges can contribute to feelings of shame; however, little is known about how medical students experience this emotion. We cannot assume that interventions aimed at supporting other populations (e.g., residents) will be effective with these learners too. Instead, we must first answer a foundational question: How do medical students experience shame within the context of the medical learning environment?

**Summary of Work:** We used hermeneutic phenomenology to explore the shame experiences of 16 medical students at a large teaching hospital in the United States. Data collection included a written reflection and a one-hour, semi-structured hermeneutic interview “informed by Tracy and Robins's theory of self-conscious emotions” that explored participants' shame experience(s). We iteratively analyzed the data according to the hermeneutic method, which yielded rich descriptions of participants' shame experiences.

**Summary of Results:** Participants' shame experiences were triggered by specific events (e.g., below average academic performance, struggling publicly with clinical tasks, exclusion from patient care responsibilities, etc.). We identified five contributing factors to participants' shame experiences: perfectionism; competition with and comparisons to others; underrepresentation (e.g. minority race, education background); focus on objective measures of performance; and treatment by supervisors/institutional leaders. The effects of students' shame experiences included emotional distress, impaired physical wellness, social isolation, and impacts on professional and personal identity formation.

**Discussion and Conclusions:** Our data suggests that shame is a powerful emotion in medical students that can lead to significant negative effects. Potential implications that deserve further study include the emotional impact of grades and licensing exams, the relationship between underrepresentation and shame, and how students' expectations influence their self-evaluations.

**Take-home Messages:** This study adds to a growing understanding of how medical learners experience shame within the context of the medical learning environment. This understanding can be used to inform targeted resource development and future research to address and mitigate the negative effects of shame in medical education.



## #5M Short Communications - Student Stress

### 5M5 (2832)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.94-95, Level 0

### Equity And Diversity: Ways to prevent violence among health professions undergraduate students

#### AUTHOR(S):

- **Maria Paula Panúncio-Pinto, Ribeirão Preto Medical School, Brazil (Presenter)**
- Giovanna Singh Gasperini, Ribeirão Preto Medical School, Brazil
- Grazielle Keile Xavier, Ribeirão Preto Medical School, Brazil

#### ABSTRACT

**Background:** Interpersonal violence IPV among health professions - HP undergraduate students takes various forms and it has become increasingly challenging to face it and develop strategies to prevent its occurrence, through awareness and education, aiming at tolerance, respect for diversity, in search of real equity.

**Summary of Work:** In order to (1) discuss aspects of IPV at academic environment from the day-to-day experience and (2) propose actions to raise awareness and educate community as well as to prevent and fix up IPV situations that have already occurred we have proposed workshops for students, teachers, officials, managers. Program involves mini-classes on the topics of university violence, restorative justice, mediation of conflicts and moments of participatory activities using and art (music and video), small group activities for discussion and presentation of strategy suggestions to deal with violence in academic everyday life.

**Summary of Results:** Six workshops were held in the period from August to December 2018, with an average of 120 participants, of which 70% were undergraduates, 20% were postgraduates and 10% were teachers. The record of material produced in workshops allowed us to identify: (1) types of violence (against women - sexism, harassment; veteran-freshman relationship, teacher-student relationship, motivated by sexual orientation; by academic performance; (2) prevention / avoidance strategies and strategies to remedy: foster dialogue, sensitize the issue through its approach, fully welcome victims, increase the exchange of information between different actors in the community, involve teachers, managers and leaders in tackling the problem; face situations in a diligent and objective way.

**Discussion and Conclusions:** Through dialogue and experiences exchange, from different points of view, it was possible to bring up issues related to naturalization of IPV, prejudice and unconscious intolerance, demonstrating the relevance of talk about how we are relating to each other. The proposals built in each workshop will be presented to the Campus Units.

**Take-home Messages:** Spaces must be created to discuss interpersonal relationships, violence, prejudice, intolerance and thus act to educate, raise awareness for the achievement of equity.

## #5M Short Communications - Student Stress

### 5M6 (2907)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.94-95, Level 0

### Depression, academic stress and substance use among medical students in Romania

#### AUTHOR(S):

- Codruta Alina Popescu, "Iuliu Hatieganu" University of Medicine and Pharmacy, Romania (Presenter)
- Alexandru Sirbu, Iuliu Hatieganu University of Medicine and Pharmacy, Romania
- Sebastian Mihai Armean, Iuliu Hatieganu University of Medicine and Pharmacy, Romania
- Anca Dana Buzoianu, Iuliu Hatieganu University of Medicine and Pharmacy, Romania

#### ABSTRACT

**Background:** Research consistently indicates that medical students report high levels of depression and suicidal ideation. Medical students with depressive symptomatology face escalated risk for alcohol-related negative consequences. The academic stress of medical training is also widely acknowledged, with an intensive and time-consuming workload, and large intellectual and emotional demands. The aim of the study was evaluate the level of academic stress and to examine the prevalence of depression and substance use, including marijuana, alcohol and other illicit substances in a sample of medical students in Romania.

**Summary of Work:** A sample of 781 students from all medical schools in Romania completed an anonymous, web-based survey including questions about illegal substance used, the AUDIT questionnaire for alcohol abuse, Beck Depression Inventory and The Medical Student Stressor Questionnaire.

**Summary of Results:** The results showed a 29.7% prevalence of mild depression, 18.3% of moderate depression and 8.5% of severe depression based on a Beck Depression Inventory. Nearly 5% of the sample was on antidepressant medication, and 2% had suicidal ideation. Nearly 25% of the sample was experiencing clinically significant depressive symptoms 65.2% of the students reported having never used any illegal substance and 35% reported marijuana use at least once in their lifetime and 9.5 in the last week (the study was done during the exam session). 45.3% of the students didn't consume alcohol and 10% had an AUDIT score for alcohol addiction.

**Discussion and Conclusions:** The findings represent initial data on the prevalence of substance use and depression among Romanian medical students. Nationwide studies are needed further investigating the prevalence, the motivation and the impact of this risky behavior among this population.

**Take-home Messages:** The high rates of depression among currently enrolled medical students call for the promotion of mental health, with a special emphasis on vulnerable groups. To reduce medical students' academic stress, a learning environment to foster their self-esteem and positive prospect for academic achievement is needed.

## #5N Short Communications - Curriculum - Accreditation and Curriculum Evaluation

### 5N1 (679)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 2.15, Level 2

### Accreditation as Quality Assurance: Measures of Effectiveness

#### AUTHOR(S):

- Danielle Blouin, Queen's University, Canada (Presenter)

#### ABSTRACT

**Background:** Accreditation of undergraduate medical education (UME) programs serves as a significant quality assurance (QA) mechanism to ensure the quality of education offered by programs. Accreditation effectiveness has been studied mainly by looking at students' performances on national examinations. However direct linkages between accreditation and the graduates' performances are difficult to establish.

**Summary of Work:** This qualitative study sought to identify novel markers of accreditation effectiveness. In 2016, Canadian medical education leaders (deans, UME deans, accreditation leaders, curricular leaders) participated in individual interviews and focus group discussions to share their perceptions of useful indicators of accreditation effectiveness. The constant comparative method of analysis associated with the grounded theory approach was used for data analysis. There are 17 medical schools in Canada; all are public. 16 were invited to participate; one school was excluded as the study would have interfered with ongoing accreditation activities.

**Summary of Results:** 63 individuals from 13 (81%) programs participated in interviews or focus groups. Proposed indicators were grouped under seven themes. Effectiveness of accreditation could be evidenced by looking at: 1. Process: quality of the processes and systems in place at UME programs; 2. Program: quality of curriculum, learning environment, assessment systems; 3. Expectations: whether programs' social accountability mandate is met, e.g., primary vs. specialist care ratio, geographic distribution; 4. Student/graduate performance: on national examinations, in postgraduate training, etc.; 5. Stakeholders' satisfaction: whether the public, government, faculty members, etc., are satisfied with programs' graduates; 6. Research productivity: by students and faculty members; 7. Faculty engagement: within UME programs and in activities aiming at enhancing teaching skills; 8. QA: whether programs demonstrate commitment to QA and to program evaluation.

**Discussion and Conclusions:** Several new potential indicators of accreditation effectiveness were identified that would help substantiate the value of accreditation as QA mechanism in ensuring the quality of UME. Next steps involve an analysis of the feasibility and of the specific data required in each category.

**Take-home Messages:** 1. UME accreditation aims at ensuring the quality of medical education programs; 2. Current markers on accreditation effectiveness focus on learners' performance; 3. This study proposes several novel markers of accreditation effectiveness based on interviews and focus groups with Canadian education leaders.

## #5N Short Communications - Curriculum - Accreditation and Curriculum Evaluation

### 5N2 (524)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 2.15, Level 2

### Medical Students' Perceived Readiness for Clerkship - 5 years of Survey data

#### AUTHOR(S):

- Simon Field, Dalhousie University, Canada (Presenter)
- Darrell Kyte, Dalhousie University, Canada

#### ABSTRACT

**Background:** Dalhousie University conducts an annual survey of medical students to evaluate their perceived readiness to begin clerkship. We have reviewed the past 5 years' worth of data to assess areas where students feel well-prepared and evaluated differences based on a number of variables.

**Summary of Work:** Our Clerkship Readiness Survey is administered shortly after commencing clerkship, and allows students to self-evaluate their comfort in dealing with various aspects of clinical practice. It has been administered annually for the past 5 years.

**Summary of Results:** Survey results show consistency in the skills with which students are most and least comfortable. For example, students consistently report more comfort with communications skills and less comfort with proposing a management plan for their patient's problems. Results are also consistent across Dalhousie's two campuses; however, differences were evident between male and female students with respect to a number of skills. Open-ended feedback showed students felt well-prepared in communication skills but suggested additional emphasis was needed in pharmacology and in particular prescribing.

**Discussion and Conclusions:** Students showed comfort with their communication skills, and less comfort with creating management plans. Male students showed higher confidence levels with domains directly related to acute patient care and communicating bad news, while female students had greater comfort in the domains of demonstrating compassion and communicating with colleagues. While our survey data did not show significant differences across a number of variables, there were domains in which male and female students differed in their levels of comfort in working within a clinical environment. We plan to cross-reference these results with student performance on OSCEs.

**Take-home Messages:** Student surveys over 5 years have shown consistency with top- and bottom-ranked skills across campuses and ages, and across some skill sets, but male and female students showed differences in their perceived abilities in selected physician activities.

## #5N Short Communications - Curriculum - Accreditation and Curriculum Evaluation

### 5N3 (1457)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 2.15, Level 2

### A comprehensive approach to ensure educational comparability across geographically distributed clinical sites at an international medical school

#### AUTHOR(S):

- Robert Hecht, American University of the Caribbean School of Medicine, USA (Presenter)
- Stephen Ash, American University of The Caribbean School of Medicine, USA
- Ian Scobie, American University of The Caribbean School of Medicine, USA
- Joy Checa, American University of The Caribbean School of Medicine, USA
- Kimberly Kirkland, American University of The Caribbean School of Medicine, USA
- Julie Taylor, American University of The Caribbean School of Medicine, USA

#### ABSTRACT

**Background:** American University of the Caribbean School of Medicine (AUC) is an international medical school with a medical sciences campus in Sint Maarten and clinical sites at seventeen US and seven UK hospitals with vastly different structures, patient populations and environments. AUC has systematically developed a robust tracking strategy to ensure a comparable educational experience for all required clerkship students across 24 clinical settings.

**Summary of Work:** AUC has created multiple mechanisms for tracking clinical sites including 1) program evaluation and 2) student experiences and academic outcomes. Detailed clerkship evaluations provide significant quantitative and qualitative feedback from students after each clinical rotation. The annual site visit process produces comprehensive reports and action items. Clinical site caseloads are compared utilizing student-entered electronic case logs. Region-specific student government representatives liaise directly with deans. Students' academic performance, including clerkship grades, National Board of Medical Examiners (NBME) Subject Examination performance, United States Medical Licensing Examination (USMLE) Step 2 performance and National Residency Match Program residency attainment rates are also documented for each site and compared to mean data from US clinical sites, UK clinical sites and all clinical sites in the same specialties. Data are shared with site leaders and faculty at annual in-person clinical sites by AUC Clinical Deans. These tracking mechanisms facilitate data comparison by clinical site and by clerkship within each clinical site.

**Summary of Results:** The team will present the student clerkship evaluation tool, the site visit process and a templated site visit report. Two clinical dashboards, one for internal use and the other for external reporting, track both program and student outcomes iteratively.

**Discussion and Conclusions:** Vastly different clinical sites can provide variable student educational experiences and academic outcomes. AUC employs a broad array of quantitative and qualitative measures to ensure comparable clinical clerkship educational experiences across diverse clinical sites. This information is used to 1) drive program improvements and identify best practices and 2) to identify outliers in student experiences and academic outcomes.

**Take-home Messages:** Detailed tracking and analysis of clerkship, site, and student outcomes can demonstrate comparability of the educational experience at diverse clinical sites.



## #5N Short Communications - Curriculum - Accreditation and Curriculum Evaluation

### 5N4 (1517)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 2.15, Level 2

### Students Making a Change (SMAC) - Using an innovative education platform to collect medical undergraduate feedback for real-time improvement

#### AUTHOR(S):

- Shabina Yasmin Rahman, University Hospitals of Leicester NHS Trust, UK (Presenter)
- Chiraag Thakrar Karia, University Hospitals of Leicester NHS Trust, UK
- Shelina Sachedina, University Hospitals of Leicester NHS Trust, UK
- Stephen Williams, University Hospitals of Leicester NHS Trust, UK
- Sue Carr, University Hospitals of Leicester NHS Trust, UK

#### ABSTRACT

**Background:** Student feedback is an important aspect of curriculum development. Currently, feedback is collected retrospectively by the local Medical School at regular intervals using a mixture of Likert scale and open-ended questions. Generally, response rates are low and there is no opportunity for real-time improvements in response to feedback.

**Summary of Work:** In total, fifteen focus groups were conducted over 17 months (September 2017 to February 2019) midway through 3rd and 4th year clinical placements. These sessions utilised TopHat, an innovative education platform to collect real-time feedback. Four questions were asked to allow students to contribute meaningful, structured feedback: 1) What works well? 2) What requires improvement? 3) What would you change? 4) How would you change it? Students were asked to rank preferred areas of improvement and provide constructive suggestions for improvement.

**Summary of Results:** An average of 12 students attended each focus group with several common themes emerging, including positive tutor exemplars, timetabling issues, clarification of student expectations and bedside teaching opportunities. Feedback and the students' suggestions for improvement were communicated to clinical placement block leads for implementation in real-time. Changes made were disseminated to students through a quarterly newsletter.

**Discussion and Conclusions:** The use of TopHat to collect real time feedback has allowed the rapid implementation of improvements during a clinical placement experience. This has also improved student engagement with the process of giving feedback by promoting discussion and empowering them to create meaningful change. In addition, students are developing an awareness of quality improvement which is a skill listed in the General Medical Council's 'Outcomes for Graduates'.

**Take-home Messages:** Using an innovative, online education platform to collect feedback can help to engage and empower medical students and lead to real-time improvements in their clinical placements.

## #5N Short Communications - Curriculum - Accreditation and Curriculum Evaluation

5N5 (3214)

Date of Presentation: Monday, 26 August 2019

Time of Presentation: 1715-1730

Location of Presentation: Room 2.15, Level 2

### Evaluating the Neonatal Intensive Care Nursing MSc Program Based on CIPP Model in Isfahan University of Medical Sciences

#### AUTHOR(S):

- Mahshid AbdiShahshahani, Isfahan University of Medical Sciences, Iran (Presenter)
- Zeinab Hemati, Isfahan University of Medical Sciences, Iran
- Alireza Irajpour, Isfahan University of Medical Sciences, Iran
- Maryam Allahbakhshian, Shahid Beheshti University of Medical Sciences, Iran
- Maryam Varzeshnejad, Shahid Beheshti University of Medical Sciences, Iran
- Babak Hamidfar, Isfahan University of Medical Sciences, Iran

#### ABSTRACT

**Background:** Following the expansion of neonatal intensive care units in Iran and the potential of ill and low-weight infant survival, neonatal nursing MSc program was first introduced in 2009. Since this program has not been evaluated systematically, it requires systematic and coherent evaluation for qualitative and quantitative improvement. Therefore, the purpose of this study was to evaluate the neonatal intensive care nursing MSc program based on CIPP model in Isfahan University of Medical Sciences.

**Summary of Work:** As a CIPP-based educational evaluation, this descriptive cross-sectional study was performed in 2014 on 40 participants including one head of department, 7 faculty members of pediatric nursing department, 25 students and 7 graduates of NICU nursing MSc program at Isfahan University of Medical Sciences. Participants were selected by means of census method. The program was evaluated using a researcher-made CIPP-based questionnaire that consisted of context, input, process, and product dimensions. Experts' opinion was used to verify face and content validity and Cronbach's alpha coefficient was used to determine the questionnaire's reliability. Data were analyzed in SPSS software.

**Summary of Results:** Findings showed that the mean scores of context ( $47.18 \pm 7.77$ ), process ( $120.23 \pm 24.5$ ) and product ( $59.85 \pm 17.16$ ) were significantly higher than the average while the mean score of input ( $84.18 \pm 17.9$ ) was lower ( $p=0.003$ ).

**Discussion and Conclusions:** Results indicate that the input aspect of the neonatal intensive care nursing MSc program at Isfahan University of Medical Sciences is at an undesirable level. Therefore, it seems that improvement of the educational quality and revision of the program require greater emphasis on enhancing factors that might affect the input, especially curriculum and faculty members.

**Take-home Messages:** Policymakers should pay more attention to the revision of the curriculum and implement formative and summative assessments consistently in order to promote the quality of neonatal intensive care nursing MSc program.

## #50 Short Communications - eLearning 2

501 (3408)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 2.31, Level 2

### How can we build active learning communities for healthcare professionals online? A narrative synthesis of what works and when

#### AUTHOR(S):

- Amy Manley, University of Bristol, UK (Presenter)
- Catherine Trimble, Avon and Wiltshire Partnership NHS Trust, UK
- Louisa Wilson, Avon and Wiltshire Partnership NHS Trust, UK

#### ABSTRACT

**Background:** Online communities between healthcare professionals intend to promote learning, foster collaboration, aid problem solving, and reduce professional isolation. However many strategies to create them are unsuccessful (Sandars 2006). Case studies describe online communities, but common themes which could direct developers and future research are unclear.

**Summary of Work:** This narrative review systematically reviews qualitative and quantitative studies evaluating the use of asynchronous communication to support learning and collaboration between healthcare professionals, published since 2012. Medline, PsycInfo, CINAHL, ERIC and the British Education Index databases were searched. Abstracts and full text articles were screened by two reviewers. Data were extracted from 25 papers using a piloted proforma which included MERSQI and BEME research quality measures. Findings were synthesised and emerging themes independently identified and agreed.

**Summary of Results:** Asynchronous communication can support online learning, from creating international networks, to supporting local journal clubs and delivering accredited programmes. Meaningful interaction takes time to emerge, often months to years. A tension exists between the benefits of asynchronous discussion (convenience, collaboration, relevant peer-learning, support, reflection) and associated downsides (work-life balance, conflict, reliability of information, avoidance of disagreement, data protection). Intrinsic and extrinsic motivators influenced participation differently. There were more active participants when extrinsic motivators were used, however less meaningful discussion emerged. Although extrinsic barriers were often cited as prohibitive to engagement, qualitative evidence suggested that a fear of appearing incompetent was an important, but little researched, barrier to posting. This, as well as differing objectives, may explain the, somewhat unexpected, association between years of experience and posting activity.

**Discussion and Conclusions:** Techniques to enhance discussion include facilitation and moderation, task definition, rewards, combining communication and content and advertising strategies. However their value will depend on the aim of the individual community. Studies were limited by cross-sectional evaluation and small sample sizes.

**Take-home Messages:** 1. Extrinsic motivation to participate is associated with more active participants, but poorer quality of interaction 2. Individuals report extrinsic barriers to communication, but also avoid posting due to a fear of their posts being perceived negatively 3. Facilitation, task definition, taught content and advertising encourage community engagement and growth

## #50 Short Communications - eLearning 2

502 (3017)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 2.31, Level 2

### Designing MOOCs for medicine and healthcare curricula

#### AUTHOR(S):

- **Luke Woodham, St George's, University of London, UK (Presenter)**
- Katrina Tatton-Brown, St George's, University of London, UK
- Katherine Joeke, St George's, University of London, UK
- Fiona Howat, St George's, University of London, UK
- Sheetal Kavia, St George's, University of London, UK

#### ABSTRACT

**Background:** Massive open online courses (MOOCs) have become increasingly well established in medicine and healthcare education. There has been a widespread recognition of their value in continuing professional development (CPD) amongst the clinical workforce, with some courses having formal CPD accreditation from relevant Royal Colleges in the UK. However, there is currently a lack of understanding and shared knowledge about how such courses can be designed to additionally cater to the needs of students on taught programmes.

**Summary of Work:** St George's, University of London have developed a series of MOOCs which are closely aligned with the curricula of undergraduate and postgraduate taught programmes, while also being relevant to the CPD needs of the clinical workforce. Through targeted discussions these courses aim to provide all learners with an enriched formative learning experience and exposure to a geographically diverse, inter-professional learning cohort, with participants from different disciplines and stages of training.

**Summary of Results:** To date six MOOCs that are directly used within taught programmes have been created, with further courses in development. Comments within the courses indicate that they have been well-received, and keen advocates and champions amongst academic staff have formed a working group to share experiences and good-practice. However, there is some initial evidence that learners on taught programmes demonstrate lower engagement with the online discussions than those joining from the wider workforce.

**Discussion and Conclusions:** MOOCs can be high quality educational resources which provide learning opportunities unavailable through other means of teaching. However, further work is required to understand patterns of learner engagement amongst those enrolled on taught programmes, and to develop strategies that provide an optimal experience across diverse participant groups.

**Take-home Messages:** MOOCs offer a rich range of opportunities to both learners and teachers, but to fully utilise these it is crucial to target the resources to the needs of your learner audience. Having academic champions is crucial to gaining widespread acceptance of these resources.

## #50 Short Communications - eLearning 2

503 (1039)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 2.31, Level 2

### Identifying Instructional Design Principles in MOOCs to Inform Integration

#### AUTHOR(S):

- **Marlies Reinders, Department of Internal Medicine (Nephrology), Leiden University Medical Center, the Netherlands (Presenter)**
- Renée Hendriks, Center for Innovation in Medical Education, Leiden University Medical Center, The Netherlands
- Peter de Jong, Center for Innovation in Medical Education, Leiden University Medical Center, The Netherlands
- Wilfried Admiraal, ICLON Leiden University Graduate School of Teaching, The Netherlands

#### ABSTRACT

**Background:** Massive Open Online Courses (MOOCs) are well structured free online resources. With growing interest in integrating MOOCs into formal medical education, their quality must be ensured. Earlier research showed that MOOCs in general score high on organization and presentation but low on instructional design quality. However, information about instructional design in specifically medical MOOCs is limited. Therefore, our research question was: How well do medical MOOCs meet the instructional design principles: problem-centeredness, activation, demonstration, application, integration, collective knowledge, collaboration, differentiation, authentic resources, feedback and goal-setting?

**Summary of Work:** An overview of medical MOOCs was compiled. Inclusion criteria were: medical condition in title; language English; course available between Sept'17 and Feb'18; no course fees; target group not excluding students. Course Scan, a tool based on the first ten principles was extended with six items based on Goal-Setting Theory, then validated, and implemented. The first author registered as a learner in the selected MOOCs, and scored all items after studying all course pages.

**Summary of Results:** Through selection 33 out of 410 medical MOOCs were included. Quality scores ranged from 12 to 36 points out of 78 (mean:21, stdev.:6.8). Application, authentic resources and feedback were present in 97% of the MOOCs. Course goals were present in 82% and 61% of the courses included relevant workplace problems. Prior knowledge was activated in 48% of the MOOCs. MOOCs incorporated collective knowledge in 39%, differentiation in 39%, and demonstration in 33%. Integration of new knowledge into daily life was required in 6% of the MOOCs and 3% required collaboration.

**Discussion and Conclusions:** The principles application, authentic resources, and some items of problem-centeredness and goal-setting are well represented, while integration and collaboration are scarcely present. Some principles may be difficult to implement in the MOOC concept, which might explain several low scores. Overall the medical MOOCs in this study score better on design quality than MOOCs on various non-medical topics in previous research.

**Take-home Messages:** MOOC quality should be considered before integrating. Medical MOOCs meet the instructional design principles in varying degree. For integration purposes certain principles might better be incorporated in linked classroom activities.



## #50 Short Communications - eLearning 2

504 (757)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 2.31, Level 2

### The Learning Outcome of Interactive E-Teaching System Using E-curricula and Instant Messaging in Post-Graduate Training in Laboratory Medicine

#### AUTHOR(S):

- Pin-Fei Wei, National Taiwan University Hospital, Taiwan (Presenter)
- Chin-Yu Cheng, National Taiwan University Hospital, Taiwan
- Shwu-Ing Meng, National Taiwan University Hospital, Taiwan
- Shiao-Ni Yan, National Taiwan University Hospital, Taiwan
- Chun-Ming Wang, National Taiwan University Hospital, Taiwan
- Yu-Chun Chiu, National Taiwan University Hospital, Taiwan

#### ABSTRACT

**Background:** E-curricula break time and space restriction of education. Instant messaging is increasingly popular and shortens the distance between people. We aimed to analyze the learning effectiveness after adding interactive E-teaching system in the post-graduate year(PGY) training in Laboratory Medicine.

**Summary of Work:** Traditional lecturing and paper assessments were used for conventional course before 2016. Interactive E-teaching system, set-up since 2016 using E-curricula for unrestricted learning, Line groups for connection and discussion, and Google Forms for assessment of learning/teaching effectiveness and student feedback, was added into PGY training and defined as interventional course. Hands-on tutoring, which is important for clinical training, remains in both course. Comparison of variables in this historical controlled study were analyzed by statistics.

**Summary of Results:** There were 19 students in the conventional course(PGY training in 2012-2015) and 12 students in the interventional course(PGY training in 2016-2017) and. The median pre-course assessment scores on common laboratory knowledges/skills, basic clinical hematology and basic clinical microscopy had no significant difference in conventional versus interventional group( $p=0.45$ ;  $p=0.87$ ;  $p=0.76$ ). Students in both groups got score improvements in 3 categories without significant differences(30.98 vs 37.86,  $p=0.20$ ; 52.40 vs 54.75,  $p=0.82$ ; 25.0 vs 22.73,  $p=0.63$ ). However, student feedback rates increased from 24.3% to 92.1% after Google Forms being paralleled to assessment. Average conference or journal article published by PGY trainees increased from 0.89/trainee in 2012-2015 to 1.52/trainee in 2016-2017 after interactive E-teaching system being integrated in PGY training.

**Discussion and Conclusions:** Google Forms make student feedback more convenient thus increase the response rate. Interactive E-teaching system motivates students to explore and discuss problems in an unrestricted environment thus is associated with learning benefits and even active learning after training.

**Take-home Messages:** Interactive E-teaching system complements the shortcomings of traditional course in immediacy and interaction therefore improves the feedback rate and motivates active learning.

## #50 Short Communications - eLearning 2

505 (1206)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 2.31, Level 2

### Integration of extended Learning Analytics into the virtual patient system CASUS

#### AUTHOR(S):

- Martin Adler, Instruct, Germany (Presenter)
- Inga Hege, Universität Augsburg, Germany

#### ABSTRACT

**Background:** E-learning portals, such as the virtual patient system CASUS, collect a wide range of usage data, for example timestamps for actions, given answers and success scores. Such data can provide information about potential problems of participants and support the quality management. Thus, learning analytics on such data provides excellent opportunities for education, but offering straight forward reports for educators and students while not oversimplifying results still is a challenge.

**Summary of Work:** Building on the already available reporting in CASUS, we analyzed the usage of these reports in close cooperation with educators. The main area for improvement we identified was that the presentation and accessibility of reports, educators often did not interpret the data or look into the detailed level due to limited time. Thus, potential problems of participants or quality issues in their courses were rarely identified. Following this analysis, we restructured the data visualization in cooperation with the educators.

**Summary of Results:** Data is re-structured summarized anonymous data in 3 levels: (1) course overview level, (2) module level, visualizing data on pages of the modules, (3) detail level showing fine granular information about interactions. Depending on time educators can get an overview about activities in courses or dig into details if necessary. For faster interpretation the system now provides explicit hints about potential issues including links where the educator can access the details on which this issue was identified. During the implementation phase, which was completed in January 2019, we regularly asked educators to test the usability and provide feedback. Additionally, educators can now access detailed information, such as responses to questions, directly in the content creation area.

**Discussion and Conclusions:** The new learning analytics tools are available for all educators in CASUS since the beginning of 2019. First results show an increased usage of the reports than before and feedback of the educators is promising.

**Take-home Messages:** Visualizing e-learning usage data is critical for a high-quality implementation of e-learning activities into the curriculum. Easy-to-use visualization without oversimplification is needed, since educators have limited time to access and interpret the data.

## #50 Short Communications - eLearning 2

506 (2271)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 2.31, Level 2

### Building a Medical Education Outcomes Center

#### AUTHOR(S):

- Mark Rosenberg, University of Minnesota, USA (Presenter)
- Jacqueline Gauer, University of Minnesota, USA
- Emily Melcher, University of Minnesota, USA

#### ABSTRACT

**Background:** The quantity of data available across the medical education continuum continues to expand, but these data often languish in siloed databases''unaccessed and underutilized. This exponential data expansion provides not only an opportunity to drive innovation and scholarship in medical education, but also a challenge, in the context of growing concerns over data privacy and the question of how to apply ethical stewardship to student data.

**Summary of Work:** The Medical Education Outcomes Center (MEOC; <https://outcomes.med.umn.edu>) was developed to connect educators and researchers to data sets, data experts, and innovative analyses. MEOC was designed to curate, manage, and integrate a large number of data elements and sources. A comprehensive request governance framework was created to standardize the intake and processing of requests through a multi-step workflow, and to ensure compliance with ethical best practices.

**Summary of Results:** A comprehensive inventory of over 100 data sources owned or utilized by the medical school was conducted, and nearly two dozen of these data sources have been vetted and integrated to-date. Upon consultation with subject matter experts, key definitions were translated into database terms to establish accurate, shared data definitions. Since fall 2017, MEOC has fulfilled 127 data requests, with another 50 requests currently in the pipeline. This work has culminated in a wide range of outcomes analyses, including peer-reviewed publications, and support of accreditation and quality improvement work.

**Discussion and Conclusions:** We have developed a framework to facilitate requests for data in a way that makes data easily accessible, documents each request to track where data are going and reduce duplication of effort, and ensures compliance with regulatory standards and ethical considerations. A limitation is that the process is resource intensive. While the framework is easily scalable, the process of vetting and fulfilling requests is not. The framework developed by MEOC could be applied to any context where a large amount of learner data is collected.

**Take-home Messages:** MEOC provides a flexible model for the development of an education outcomes center that can be adapted to other institutions.

## #5P Short Communications - Teaching and Learning - Anatomy

5P1 (2666)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room L1, Level 1

### Anatomy dissection improves the initially lower levels of spatial ability of medical undergraduates

#### AUTHOR(S):

- **Katerina Bogomolova, Leiden University Medical Center, The Netherlands (Presenter)**
- Beerend P. Hierck, Leiden University Medical Center, The Netherlands
- Jos A. van der Hage, Leiden University Medical Center, The Netherlands
- Steven E.R. Hovius, Erasmus University Medical Center, The Netherlands

#### ABSTRACT

**Background:** Spatial ability is considered a successful predictor in anatomy learning and acquisition of technical skills. Previous research suggest that spatial ability can be trained by practice and education. However, high interest in anatomy and personal preference for a surgical specialty does necessarily implies a higher spatial ability among residents. The relationship between spatial ability and high interest in anatomy in the very early stages of a medical career has not been evaluated yet. The aim of this study was to evaluate whether the choice for an extracurricular anatomy dissection course is related to spatial abilities of medical undergraduates, and whether spatial ability improves after participation.

**Summary of Work:** In a prospective case-control study, course participants (cases) were first and second-year medical students admitted to the extracurricular anatomy dissection course of ten weeks (n=45). Controls were their counterparts who did not apply and therefore did not participate in the course (n=65). Spatial ability was measured by the validated 24-item Mental Rotation Test prior to and ten weeks after the course. The differences in spatial ability scores at baseline were analysed with independent t-test. A one-way ANCOVA analysis was performed to compare the mean improvement in spatial ability scores, while adjusting for spatial ability scores at baseline.

**Summary of Results:** At baseline, there was no significant difference in spatial ability scores between course participants and controls (first-year: 14.6 vs 13.8; p=0.411; second-year: 11.8 vs 11.5; p=0.856). At the end of the course, participants achieved significantly higher scores as compared to controls: 20.6 vs 18.6, ANCOVA, F=4.9, p=0.030 (for the first-years) and 18.3 vs 17.6, ANCOVA, F=5.07, p=0.030 (for the second-years). In a sub-analysis, the significant improvement in spatial ability scores was present only in students with initially lower spatial abilities.

**Discussion and Conclusions:** The choice for an extracurricular anatomy dissection course does not imply a higher spatial ability among medical undergraduates and only students with initially lower spatial abilities did benefit from the dissection course. Further research is needed to investigate which specific activities within anatomy dissection improve spatial ability.

**Take-home Messages:** These findings indicate that spatial ability can be enhanced by repeated practice of anatomy dissection among students with lower spatial abilities.

## #5P Short Communications - Teaching and Learning - Anatomy

### 5P2 (2233)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room L1, Level 1

### From cut-and-see to preoperative planning - a new concept for dissection course

#### AUTHOR(S):

- Jörg Goldhahn, ETH Zurich, Switzerland (Presenter)
- Natascha Lier, Institute of Anatomy of the University Zurich, Switzerland
- Oliver Ullrich, Institute of Anatomy of the University Zurich, Switzerland
- Michael Thali, Institute for Forensic Medicine of the University of Zurich, Switzerland
- Johannes Loffing, Institut of Anatomy of the University of Zurich, Switzerland

#### ABSTRACT

**Background:** Dissection courses play an essential role in medical curricula - not only in understanding interindividual differences in anatomy but also in achieving manual dissection skills. So far, step-by-step preparation served as an approach to learn these skills. However, new imaging modalities enable preoperative planning of dissection compared to surgical planning within a clinical environment..

**Summary of Work:** In collaboration with the Institute for Forensic Medicine we could provide CT scans for all cadavers in our dissection course. The scans were available on tablets next to the situs. Small planning exercises were handed out to the students, which triggered planning of next dissection steps. Students had to measure structures and to identify and measure them after subsequent preparation. These Tasks were also part of the final exam.

**Summary of Results:** The entire cohort of 90 students mastered the course content. Initial feedback indicates that the preoperative planning helps to make the link between imaging (virtuality) and real structures (reality). An additional imaging software with annotations helped to understand anatomical landmarks and structures. Student feedback was very positive and the final exam indicated an improved ability to localize anatomical structures in the specific situs.

**Discussion and Conclusions:** The preliminary experience with preoperative planning in the dissection course was very positive but need further systematic investigation to quantify the potential effect on medical education.

**Take-home Messages:** Dissection courses still play an essential role in medical education. The combination with imaging helps to turn them into preoperative planning and make them more valuable.



## #5P Short Communications - Teaching and Learning - Anatomy

5P3 (498)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room L1, Level 1

### Student-Led Tutoring and Gross Anatomy Sessions: Meeting a Medical Student Curriculum Redesign with a Near-Peer Tutoring Framework

#### AUTHOR(S):

- Christopher Barnes, Rush Medical College, USA (Presenter)
- Adam Payne, Rush Medical College, USA
- Benino Navarro, Rush Medical College, USA

#### ABSTRACT

**Background:** When our medical school recently implemented a new curriculum, we as medical students recognized the need for a tutoring system to support this change. We met this by creating a tutoring service that supplemented underclassmen learning, while simultaneously fostering the teaching skills of upperclassmen who wish to become medical educators. We utilized Near-Peer Tutoring (NPT), a system involving current medical students teaching other current medical students, which has been shown to positively impact tutors, tutees, and faculty.

**Summary of Work:** Our NPT program is completely student-organized and led. We implemented 'office hours' where 1-2 tutors held sessions for underclassmen to come and go freely and ask any questions. We also implemented gross anatomy peer tutoring with similar sessions in the gross anatomy lab, where upperclassmen tutors would identify and explain pertinent structures, adding any clinical correlations to further student understanding.

**Summary of Results:** Per survey results, 100% of students reported feeling more prepared for exams due to NPT, with an average preparedness rating of 4.57 and 4.90 for office hours and anatomy tutoring, respectively (scale of 1-5). 70% reported learning about new resources and study techniques, 61% appreciated the comfortable and consistent spaces for questions, and 54% emphasized the usefulness of learning from a near-peer's perspective.

**Discussion and Conclusions:** Our NPT model is an effective system of supplementing medical student learning, which can ease the transition of a curriculum change. NPT benefits students beyond content, as our system offers assistance on how to learn by presenting a variety of resources and study techniques to medical students, each having individual learning needs. Beyond benefits to students our tutoring service also benefits faculty as it is largely student-led, minimizing the amount of resources needed to run the program and avoiding additional workload for faculty and administrative staff.

**Take-home Messages:** Our NPT service taught new medical students how to learn content effectively. Students felt more prepared for exams, while tutors gained new skills as educators. This teaching method proved invaluable even with a changing curriculum. This service being student-led allows it to be readily applied to other schools.

## #5P Short Communications - Teaching and Learning - Anatomy

5P4 (2363)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room L1, Level 1

### The Modernization of Anatomy Teaching: The Integration of Web-based Augmented reality (WebAR) and Three-Dimensional (3D) Printing Technology

#### AUTHOR(S):

- Mei Kuen Florence Tang, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Lik Hang Taylor Tang, The Chinese University of Hong Kong, Hong Kong
- Miu Yung Olivia Ngan, The Chinese University of Hong Kong, Hong Kong
- Wai Ho Kwok, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** The fundamental learning of anatomy for health professions in Faculty of medicine depends on the plastinated specimen of human cadaveric material which is related to the health hazard, ethical and moral concerns. At present, students examine the plastinated specimen, they need to go through the details through the atlas. The WebAR in the education is a good resource, as the information dynamically overlaid with the real-world static object is stored in the web pages. The learners can access the virtual valuable additions without the geographical barrier and time restriction. Recently, the prototyping via the 3D printing technology is easily and quickly built up from the digital data. Medical applications have widely used this technology, especially for tissue engineering.

**Summary of Work:** By applying the WebAR with the 3D printing assisted with the plastinated organ of the kidney, we would like to study if they enrich the students' experiential learning and examine their effectiveness as a medical educational intervention in Anatomy teaching to the health professions.

**Summary of Results:** Our team developed courseware entitled as Virtual eLearning Tool (VeT) using WebAR with 3D printing technology, providing an excellent sight stimulation to study the gross anatomy of the kidney. Through the VeT platform, students can use their smartphones to screen the 3D printed kidney model; and all the information of the internal anatomical structures is pop out in details via the position marker. Students acquire the knowledge from the interactive multi-media material in positive experiential learning.

**Discussion and Conclusions:** From our pilot study, the VeT provides several educational implications that our team has designed the novel AR-based experiential learning environment for studying Anatomy; it relieves the ethical issue concerning the usage of cadaveric material; it bridges the interactive learning gap between the factual knowledge with text content type in the book and the 3D model and it facilitates students learning in acquiring anatomical knowledge for understanding the spatial relationship of organs.

**Take-home Messages:** The potential and affordance of the WebAR and 3D printing technology are being valued and extended to the strategic pedagogy in the future health professional education.

## #5P Short Communications - Teaching and Learning - Anatomy

5P5 (3248)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room L1, Level 1

### Exploring the application of ultrasound in teaching anatomy: a mixed method study

#### AUTHOR(S):

- Te Fa Chiu, Department of Education, China Medical University Hospital, Taiwan (Presenter)
- Chia-Hsin Yang, China Medical University Hospital, Taiwan
- Yuan-Chun Tsai, China Medical University Hospital, Taiwan
- Wei-Jun Lin, China Medical University Hospital, Taiwan
- Fremen Chihchen Chou, China Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Manipulating (operating) ultrasound, instead of learning from only picture and text, may be an efficient way to help students approach anatomy, by introducing hand-on practice and building concept of continuous two-dimensional structure. In addition, peer-assisted learning also has excellent effect on learning anatomy, it can increase the feasibility of small-group teaching, encourage knowledge sharing and reduce tuition cost.

**Summary of Work:** We trained 27 senior medical students to serve as teaching assistants (TAs), and integrated ultrasound into anatomy curriculum for 201 junior medical students. The course consisted of didactic lecture, ultrasound demonstration by medical staff with large group, and mainly of practical lab training with small groups (a TA instructing 6-7 medical students). Each medical student received 12 hours of lab training in divided 3 sections. We conducted a mixed method study with explanatory design to explore the feasibility and the reason behind.

**Summary of Results:** The quantitative part showed: Students are happy to that ultrasound was integrated in learning anatomy(97.0%), feel more interesting(97.3%), agree that ultrasound can help anatomy learning(95.4%), and hope to integrate ultrasound into more anatomy courses(95.3%). Satisfaction to medical staff and TA is 97.4% and 97.8% respectively. The qualitative part revealed: Clarifying the anatomy knowledge on the actual human body, improving the concept of relative position in three-dimensional space, and actual operation help understanding anatomy in-depth and memorization. TAs improve the accessibility and interaction through using 'the same language' as students.

**Discussion and Conclusions:** Teaching and learning anatomy has been considered as one of the most challenging tasks in medical education in terms of the huge need of resources and the difficulty to comprehension. Most students found that the vivid experience of learning anatomy on a living human body through operating ultrasound is a unique way and beneficial for promoting in-depth comprehension. The application of ultrasound in teaching anatomy with peer-assisted learning strategy is supported by both the quantitative and qualitative data. TAs themselves benefited most, both quantitatively and qualitatively.

**Take-home Messages:** Integration of ultrasound into anatomy curriculum is helpful in increasing learning motivation and comprehension. Application of peer-assisted learning is cost-effective in ultrasound teaching.

## #5Q Short Communications - Global Health

### 5Q1 (2124)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.15, Level 0

### Using Global Burden of Disease measures to guide case-selection and emphasis in an international medical curriculum

#### AUTHOR(S):

- Samuel McConkey, RCSI, Ireland (Presenter)
- Mary Cafferkey, RCSI, Ireland
- John Jenkins, RCSI, Ireland
- Martina Crehan, RCSI, Ireland
- Wayne Cunningham, RCSI, Bahrain
- Teresa Pawlikowska, RCSI, Ireland

#### ABSTRACT

**Background:** In transforming its undergraduate medicine curriculum, RCSI is developing a series of clinical cases, through which students will learn about behavioural and social determinants of health, health care systems, biological sciences, clinical and quantitative skills and knowledge, as well as clinical medicine. The curriculum will be delivered at three international sites hence it must prepare mobile students for practice in many international settings, and equip them with knowledge of the wide range of major health issues they will encounter, and the skills they will need to lead and work effectively in multi-professional, multi-cultural and multilingual health services. To address this we have developed a process based on the work on Global Burden of Disease (GBD) collaboration.

**Summary of Work:** The global contribution of every disease, disability or category, measured in disability-adjusted-life-years (DALYs), was ranked in descending order using GBD. The annual rate of change was noted. The slice of DALYs lost from each condition in Ireland, Bahrain, Malaysia and USA were compared to the global ranking. A cut-off was chosen below which inclusion of conditions would necessitate other justification. The list was mapped against RCSI's current topics, diagnostic codes for family doctors, and conditions included at two other medical schools. The conditions were grouped by physiological system and presented to the faculty for discussion and critique as a suitable approach to globalise this core element of the curriculum.

**Summary of Results:** The findings are surprising and non-intuitive. Neonatal disorders cause most loss of DALYs globally and rank in the top 10 in Bahrain and Malaysia. Ischaemic heart disease ranks 2nd globally, (1st in Ireland, Malaysia, USA). Stroke ranks third globally (2nd in Malaysia) whilst diabetes mellitus ranked 8th globally is 1st in Bahrain. This may be a useful tool to select clinical conditions for case-based teaching and to guide their relative emphasis.

**Discussion and Conclusions:** The GBD can help guide selection and emphasis of cases included in a medical curriculum.

**Take-home Messages:** GBD data can help provide a framework for selection of diseases and conditions that medical students should learn about in an increasingly interconnected world.

## #5Q Short Communications - Global Health

### 5Q2 (534)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.15, Level 0

### Samoan, New Zealand and Nepalese medical student perspectives and ideas regarding global health within medical curricula

#### AUTHOR(S):

- Hannah Sim, University of Otago, Christchurch, New Zealand (Presenter)
- Andrew Miller, University of Otago, New Zealand
- Roshit Bothara, University of Otago, New Zealand
- Tim Wilkinson, University of Otago, New Zealand
- Susan Jack, University of Otago, New Zealand
- Jen Desrosiers, University of Otago, New Zealand

#### ABSTRACT

**Background:** There is consensus that medical students need more opportunities to learn about global health during their undergraduate training. However, few studies have explored why, how and what medical students would like to learn about global health.

**Summary of Work:** This mixed-method study involved medical students in Nepal, Samoa and New Zealand (NZ) participating in the Global Health Classroom, a collaborative, virtual global health learning activity, which was awarded the AMEE 2018 Patil Innovation Award. Pre-GHCR questionnaires were sent to all participants in the three countries. Semi-structured interviews were carried out with randomly selected participants; 5 in Samoa and 14 in NZ. The questionnaires and interviews explored participants' motivations for learning about global health, and what and how they wanted to learn about global health in the medical curricula. The quantitative and qualitative data was analysed using a triangulation approach.

**Summary of Results:** 120/161 (75%) of participants across the three countries completed the questionnaire, of which 73% reported interest in learning about global health. Participants reported the importance of being global citizens and their recognition of doctors' roles in addressing health equity as key motivators for learning about global health. Of the global health learning concepts recommended by Johnson et al., students expressed most interest in learning about cultural diversity and impact on health (60%) and global burden of disease (59%). Students rated active learning methods higher than didactic methods.

**Discussion and Conclusions:** Medical students are motivated to learn about global health because they identify themselves as global citizens and future doctors with the duty of addressing health inequity. The medical curricula needs to capitalise on this by incorporating active learning methods of global health concepts, such as culture diversity and health, and global burden of disease. Global health educators should recognise these motivations and aspirations in developing the global health curricula.

**Take-home Messages:** 1. Students are motivated to learn about global health because they identify themselves as global citizens and aspire to see equitable health care globally. 2. Global health curricula needs to align their content and learning methods with these motivations to produce effective global health practitioners.



## #5Q Short Communications - Global Health

### 5Q3 (864)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.15, Level 0

### Health Professional education and practice in preventing and controlling infections amidst escalating global antimicrobial resistance

#### AUTHOR(S):

- Linda Gulliver, Otago Medical School, University of Otago, New Zealand (Presenter)
- Heather Brooks, Department of Pathology, University of Otago, New Zealand
- Linda Kinniburgh, Otago Polytechnic School of Nursing, New Zealand
- Joanne Stodart, Southern District Health Board, New Zealand
- Joy Rudland, Otago Medical School, University of Otago, New Zealand

#### ABSTRACT

**Background:** This study aimed to find out how well New Zealand doctors and nurses are trained, assessed and monitored in Infection Prevention and Control (IPC). Peer assessment of clinical practice and patient feedback were also piloted as quality assurance tools aimed at reducing infections, a key objective of the World Health Organisation's global action plan targeting burgeoning rates of antimicrobial resistance.

**Summary of Work:** Medical and nursing curricula were mapped for IPC teaching and assessment alongside IPC monitoring methods used in clinical practice. Doctor and nurse clinician cohorts (undergraduates to >10 years postgraduate) were evaluated by peer experts while completing clinical procedures involving hand hygiene, aseptic technique and patient isolation. Self-evaluation, followed by patient and expert peer feedback, occurred post-procedure.

**Summary of Results:** Although medical students received twice the IPC-related theory compared to nursing students, nurses obtained more formal IPC-specific practical tuition and assessment. For medical students IPC-specific practical tuition was opportunistic, rotation specific or formed part of an orientation (e.g. to operating theatre). Despite less formal IPC practical teaching and assessment, medical students in practice were expected to be IPC-competent when demonstrating mastery of a skill. Doctors and nurses generally self-reported competency in IPC regardless of experience, however many admitted adjusting their technique to save time. All agreed that introducing regular peer review of IPC practice was desirable. Peer expert and patient feedback was generally positive, however some patients questioned whether they felt empowered enough to challenge perceived poor clinician practice.

**Discussion and Conclusions:** Although clinician cohorts mostly performed IPC procedures adequately, this study shows areas for improvement and suggests a need for a greater IPC-specific formal practical component in medical training. Regular peer review of IPC practice would be well received by staff and patients, especially since not all patients feel sufficiently empowered to speak up. Results from this study can be used to inform positive change in medical and nursing curricula and IPC in clinical practice.

**Take-home Messages:** Rigorous IPC education and monitoring is required to curb reliance on antibiotics and reduce global antibiotic resistance. Moreover, safe IPC practice should be viewed as a basic patient/consumer right.

## #5Q Short Communications - Global Health

### 5Q4 (2605)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.15, Level 0

### Climate Change in Medical Curriculum 2020

#### AUTHOR(S):

- Alaa Dafallah, University of Khartoum, Sudan (Presenter)
- Tarek Ezzine, International Federation of Medical Students Associations, Tunisia
- Katja Čič, International Federation of Medical Students Associations, Slovenia
- Omnia El Omrani, International Federation of Medical Students Associations, Egypt

#### ABSTRACT

**Background:** There is a remarkable gap between the impacts of climate change on health and the inclusion of the topic into medical curricula, leaving future healthcare professionals with insufficient knowledge and competency to address the issue. The International Federation of Medical Students' Associations (IFMSA) aims to integrate climate-health in medical curricula worldwide by 2020. This advocacy campaign is happening through the engaging network of 1.3 million medical students coming from 125 countries and with the support of other organisations working on Environmental Health, Climate Change & Medical Education.

**Summary of Work:** A survey was launched via our communication channels of the IFMSA. Every National Member Organisation reported on the status of climate-health integration in their medical curriculum. The IFMSA Public Health in Medical Curriculum Toolkit was created last year and will represent the basis for our call to action and advocacy to integrate climate health into curricula in the target countries.

**Summary of Results:** The results of the survey reflects the inclusion of Climate Change in Medical Curriculum from 125 countries. It will be analysed and translated into a World Climate-Health Map on IFMSA website in which we can view the status of inclusion of Climate-Health in Medical Curriculum. The aim is to launch the World Climate-Health Map at the AMEE conference.

**Discussion and Conclusions:** The outcomes of the Report Cards will be combined and analyzed in a yearly synthesis report that aims to be presented at the AMEE conference. The results will also be published on our website in the form of a map where anyone can search for the University of their interest and learn about the aspects of each climate-health curriculum.

**Take-home Messages:** There's an urgent need for a climate change curriculum based on emerging scientific evidence and reviews on the health impacts of climate change. This significant association calls for medical education to train future healthcare professionals on health sector mitigation and adaptation to climate change. Medical students should be equipped with the knowledge and skills to manage climate-related illnesses, engage in eco-health promotion, and disease prevention, hence paving the way for a climate-resilient society.

## #5Q Short Communications - Global Health

5Q5 (2662)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.15, Level 0

### Global health: Can essays demonstrate transformative learning?

#### AUTHOR(S):

- Ann Wylie, King's College London, UK (Presenter)
- Eleanor Bowen-Jones, Kings College London, UK

#### ABSTRACT

**Background:** Reflective writing offers ways in which transformative learning (TL) can be expressed. Global health (GH) learning and experiences provide ideal opportunities for students to have their worldviews positively challenged and for the insight development. Reflective writing could provide evidence of this, hence the study. The core values associated with GH themes and the imperative to see GH as mainstream in medical education teaching offer significant opportunities for integration in core clinical teaching and medical curricula. Core teaching requires assessment and the modality used in one large UK medical school is essays. These essays were mandatory and submitted before elective placements of final year students.

**Summary of Work:** Students were provided with webinars, reading lists and symposium as part of their GH module and subsequently were expected to submit a 2000 word GH essay with a focus and title of their choice. This happened concurrently whilst they planned and prepared for elective placements taking place after their final exams. A team of 20 experienced academics were recruited to mark the 420 essays. A purposive sample, where consent was obtained, (N=40) of essays were anonymised and thematically analysed with no regard to the grade. Data were collected from the markers regarding the views of depth of learning and insights into GH concepts demonstrable in the essays.

**Summary of Results:** Early findings suggest the range of focus and topics the students selected enabled them to produce good-quality scholarly writing and draw on years of learning. A minority of students merely described a case study or their forthcoming elective placement, whilst the majority were able to integrate GH concepts, present arguments and conclude with an informed discussion. Some essays gave indications that transformative learning had occurred. The markers commented on the high standards of writing and the range of topics as well as the insights the students articulated.

**Discussion and Conclusions:** The argument for GH in core curricula is appropriate. Essays as the assessment tool, not only provide evidence of learning but can demonstrate, for some students, transformative learning.

**Take-home Messages:** Essays are a valuable assessment modality for TL and GH.

## #5Q Short Communications - Global Health

### 5Q6 (3177)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.15, Level 0

### Universal professionals or global physicians? A multi-centre study of international medical programme design

#### AUTHOR(S):

- **Emmaline Brouwer, Maastricht University, the Netherlands (Presenter)**
- Erik Driessen, Maastricht University, the Netherlands
- Norul Hidayah, International Medical University, Malaysia
- Vishna Nadarajah, International Medical University, Malaysia
- Klara Somodi, Pécs University, Hungary
- Janneke Frambach, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** Increasing numbers of medical schools offer curricula that specifically target international students, and aim to prepare them for a medical career abroad. To design such a curriculum that adequately prepares these students for global practice is challenging as well as controversial: designers must seek to reconcile specific local healthcare requirements with the global health competencies doctors need in our globalised world. By investigating how international medical programme designers experience this balancing act, this study aims to contribute insights to the debate on global and local health education.

**Summary of Work:** We conducted a multi-centre instrumental case study across three universities with international medical programmes in Hungary, Malaysia and the Netherlands. The study involved 26 semi-structured interviews and a curriculum document analysis of all programmes. Key curriculum designers were recruited through purposive sampling. Data were thematically analysed within an international and multidisciplinary team and then integrated to find the main parallels and dissimilarities across settings.

**Summary of Results:** Participants described two different profiles of international medical programme graduates: 'a global physician', who is equipped with specific competencies for international practice, and 'a universal professional', who as an overall high-level graduate is fit for future practice anywhere. These perspectives presented different curriculum design challenges, including how to define global relevance and strike a balance between the global and the various potential future local work contexts. Curriculum design strategies varied from adding a global health flavour to teaching material, to standardisation and ensuring alignment with global educational developments.

**Discussion and Conclusions:** International medical programmes teach us how we can rethink graduate profiles of international education. Yet, curriculum choices that aim to prepare a universal professional involve risks inherent in standardisation, while adding specific global health competencies to prepare a global physician requires careful consideration of the definition of global health.

**Take-home Messages:** - Curriculum designers define two different graduate profiles of international medical education: a high-level universal professional and a distinct global physician.

- It remains challenging to prepare students for the requirements of a specific yet unknown future local healthcare context.

## #5R Short Communications - Professionalism/Professional Identity

### 5R1 (250)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.16, Level 0

### Priorities and Insights: A Professionalism Curriculum for Postgraduate Psychiatry Learners

#### AUTHOR(S):

- Tanis Adey, Memorial University of Newfoundland, Canada (Presenter)

#### ABSTRACT

**Background:** A physician's professional identity is central to the physician-patient relationship. Lapses of professionalism by physicians are now commonplace and professionalism training must be included in curricula to meet accreditation standards. An effective curriculum focused on humanism can impact student professionalism attitudes and behaviours and is associated with enhanced patient satisfaction, treatment compliance and decreased medicolegal complaints.

**Summary of Work:** A modified Delphi technique was used to develop a questionnaire to determine key professionalism topics for a psychiatry training program at a Canadian University. Two pilot professionalism modules on top priority topics were delivered and evaluated. Descriptive and qualitative analysis was performed.

**Summary of Results:** Of the 137 potential participants, 30% responded. Of 42 respondents 26/42 (62%) were female and 17/42 (41%) were learners. Ten topics were felt to be very important to include in a professionalism curriculum by at least two thirds of respondents. Six topics were endorsed significantly more often by psychiatrists when compared to residents as being 'very important' to include in a professionalism curriculum: Boundary violations; Communication; Patient handover; Respectful behavior toward patients and families; Process improvement; and Social accountability. Evaluation of two pilot modules on top priority topics, Boundary violations and Managing professionalism with challenging patients, suggested that professionalism training was well received (4.6/5 for both modules). Qualitative evaluation deemed it to be important and relevant.

**Discussion and Conclusions:** While there is some agreement on professionalism topics that are very important to include in a psychiatry professionalism curriculum, there is some disagreement between learners and psychiatrists regarding priority topics.

**Take-home Messages:** More professionalism curriculum is needed in psychiatry training. Current education trends involve learners identifying their own learning needs. This study illustrates that learners may not always be able to identify their knowledge gaps. Curriculum guidance may be necessary.



## #5R Short Communications - Professionalism/Professional Identity

### 5R2 (2804)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.16, Level 0

### What do Pre-clinical Students Learn about Professionalism from Observation Learning in Patient and Family Advisory Councils in China?

#### AUTHOR(S):

- Shaoting Feng, The First Affiliated Hospital, Sun Yat-sen University, China (Presenter)
- Ming Kuang, The First Affiliated Hospital of Sun Yat-sen University, China
- Suqing Yang, The First Affiliated Hospital of Sun Yat-sen University, China
- Jingsong Wang, The First Affiliated Hospital of Sun Yat-sen University, China
- Haipeng Xiao, The First Affiliated Hospital of Sun Yat-sen University, China
- Tinghuai Wang, The First Affiliated Hospital of Sun Yat-sen University, China

#### ABSTRACT

**Background:** Observation Learning in pre-clinical years is an important part of early involvement in clinical practice for medical students in China. Initiated by Sun Yat-sen University, it has been widely accepted and playing a significant role in medical professionalism education in many medical colleges after 20 years development. Increasingly, healthcare organizations are adopting patient and family advisory councils (PFACs) as a key strategy to improve patients' healthcare experience. To develop a method for better professionalism education, we set an observation learning session in PFACs for pre-clinical medical students.

**Summary of Work:** The project consisted of pre-clinical students taking the program of 'early involvement in clinical practice' in the First Affiliated Hospital of Sun Yat-sen University, who were from Grade 1 to Grade 3 of medical college. In 2018, 268 students participated in this program, were arranged to observe the PFACs in their elective departments of our hospital during their winter/summer vacations. 257 Narratives based on their observations were collected and each student offered his or her reflections on their own narrative. The content of the narratives and reflections were analyzed.

**Summary of Results:** Students' responses were overwhelmingly positive in both written and oral feedback. The majority (95%) were deeply impressed by the observation learning in PFACs. It not only illustrated them how doctors communicating with patients, but also offered them opportunities hearing voices of the patients, exerting an imperceptible influence on their mind of essential principles of medical professionalism, such as humanism, responsibility, altruism and excellence. Reinforcement on medical professionalism were shown in students' narratives and reflections.

**Discussion and Conclusions:** Observation learning in PFACs for pre-clinical students is a positive way for shaping professionalism in pre-clinical years of medical education. It can help developing students' empathy with patients, communication skills, as well as better understandings for the doctor-patient relationships. Narratives and reflections written by students could deepen their understandings of the values and principles of professionalism in pre-clinical years.

## #5R Short Communications - Professionalism/Professional Identity

### 5R3 (788)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.16, Level 0

### Professionalism Breakfast

#### AUTHOR(S):

- Ellen M. Friedman, Baylor College of Medicine, USA (Presenter)

#### ABSTRACT

**Background:** Many studies reveal that professionalism issues, rather than cognitive knowledge or technical skills are the leading causes behind medical errors. In addition, in the United States, professionalism is a mandated core competency in all residencies. In order to provide training in this area, we created sessions to encourage discussion and reflection on practical professionalism issues. An unique aspect of these sessions is the emphasis on peer to peer learning with minimal faculty support. Earlier surveys revealed that the majority of participants have witnessed lapses in professionalism.

**Summary of Work:** This project engages residents and fellows in discussion of realistic vignettes focused on professionalism issues in order to increase their comfort and willingness to address similar situations when they arise. Incorporating the exercise into a one-hour breakfast meeting maximizes participation by minimizing conflict with clinical schedules and also helps to maintain an informal atmosphere for open, peer-to-peer discussion. Professionalism breakfasts have now been conducted with numerous medical and surgical residencies.

**Summary of Results:** On post-activity evaluation surveys, the majority of participants indicated that: 1. The professionalism scenarios were realistic (75.6%-76.8%). 2. They learned something new about professionalism (62.4%) 3. They planned to put the concepts learned into practice (63.5%) 4. They felt better prepared to handle lapses in professionalism (70%) 5. They enjoyed the format and would recommend it to a friend/colleague (69.6%-71.0%)

**Discussion and Conclusions:** Based on these preliminary results, we feel that the Professionalism Breakfasts have met our original goals to create a positive and enjoyable learning experience that highlights professionalism in the GME curriculum and help participants deal with professionalism conflicts that they will encounter. This demonstrates a potential avenue for teaching professionalism not only to meet ACGME requirements but also to ultimately improve patient care. We plan to broaden participation in this program to additional departments.

**Take-home Messages:** 1. This program facilitated peer to peer discussions on sensitive and practical topics. 2. One hour sessions which include refreshments attract excellent participation. 3. This format is low cost, requires minimal faculty burden and enjoyable for the participants 4. Participants felt better prepared to handle lapses in professionalism.

## #5R Short Communications - Professionalism/Professional Identity

### 5R4 (2012)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.16, Level 0

### Professionalism across the professions

#### AUTHOR(S):

- Erica Smyth, RCSI, Ireland (Presenter)
- Heinz Lechleiter, Dublin City University, Ireland
- A Jamie Saris, Maynooth University, Ireland
- Rachael Hession, Law Society of Ireland, Ireland
- Marié T O'Shea, RCSI, Ireland
- Teresa Pawlikowska, RCSI, Ireland

#### ABSTRACT

**Background:** One of the objectives of medical education is to develop a sense of professional identity in learners. Professional identity can be developed in many ways, for example as an individual or as part of a larger group. We believe that important information about the development of professional identity and underpinning teaching strategies can be learnt by looking at professionalism in different contexts. The aim of this study is to explore the experiences, values and behaviors that contribute to the development of professionalism and professional identity in different professional groups.

**Summary of Work:** A qualitative research approach was employed and conducted from a constructivist perspective. Data was collected in digitally recorded focus groups comprising of heterogeneous groups of stakeholders in the areas of medicine, law and academic teaching. Focus group discussions were fully transcribed and analysed using inductive thematic analysis to identify emergent themes.

**Summary of Results:** 20 subjects participated in 4 focus groups. There was a consensus between the professions that professionalism is a difficult subject to teach explicitly and that most individuals learnt through observation of peers and seniors, role modelling and following a code of conduct or professional guidelines. Differences between the professions existed with regards to the power balances between the professionals and their service recipients, and the role of practitioner context and influence of institutional professional culture.

**Discussion and Conclusions:** There are similarities and differences between how professionalism is perceived across the professions and each profession has its own challenges to professional behavior. Similarities existed between the strategies to teach professionalism, whereas differences were present in the influence of practitioner context and power relationships. The journey to professional identity is unique for individuals both within and between professions.

**Take-home Messages:** By examining professionalism between different profession groups, factors which may not have previously been considered are highlighted as potentially important for the development of professional identity in the medical context. Observing professionalism from different perspectives allows the medical educational community to harness ideas which can be used to develop new progressive teaching strategies for instilling professionalism in medical students.

## #5R Short Communications - Professionalism/Professional Identity

5R5 (2579)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.16, Level 0

### Pill Counter, business person or health care provider? A discourse analysis of professional identity in pharmacy education

#### AUTHOR(S):

- **Jamie Kellar, Leslie Dan Faculty of Pharmacy, University of Toronto, Canada (Presenter)**
- Cees van der Vleuten, School of Health Professions Education, Maastricht University, Netherlands
- Mirjam oude Egbrink, School of Health Professions Education, Maastricht University, Netherlands
- Elise Paradis, Leslie Dan Faculty of Pharmacy, University of Toronto, Canada
- Zubin Austin, Leslie Dan Faculty of Pharmacy, University of Toronto, Canada

#### ABSTRACT

**Background:** Professional identity formation - the development of professional values, actions, and aspirations “ is gaining momentum as a movement for educational reform in health professions education. Currently, and historically, pharmacist identity has been contested: are they merchants or health care professionals? This unformed professional identity may have significant effects on recruitment, retention, acceptance by other healthcare professionals, and approval by society.

**Summary of Work:** The objectives of this study were to explore (1) what have been the professional identities in pharmacy education over the last century in North America and (2) which one(s) currently dominate the curricula. A Foucauldian informed historical discourse analysis was undertaken to uncover the educational assumptions underpinning pharmacist identity over time. This analysis, allowed for the questioning of the roles of the pharmacist that are taken for granted and assumed as rational and inevitable.

**Summary of Results:** This study identified five prominent discourses in the literature related to the professional roles of pharmacists over the last century. The identities are the 'apothecary', 'druggist', 'merchandise', 'expert advisor' and 'health care provider'. Each of these discourses constructs the pharmacist's professional role in different ways and as such makes possible certain language, subjects, and objects. An unexpected finding of this research was that over the years there were no clear discursive shifts in the education literature, but rather discursive 'pile-ups' of all identities.

**Discussion and Conclusions:** Each identified discourse remained present throughout the entire archive. These 'discursive pile-ups' suggest that each discourse continues to have relevance to pharmacy educators, and as such competes for space in the curriculum. Although each discourse is not dominant at the same time, each holds some place in the education and practice arena and fights to remain pertinent. This likely contributes to the identity challenges pharmacists currently face.

**Take-home Messages:** This critical discourse analysis reveals that pharmacist identity constructs are not straightforward, self-evident, or progressive. Pharmacy educators must determine the ultimate goal of pharmacy education and begin a formal process of inculcating the ideal identity discourse in pharmacy curricula.

## #5R Short Communications - Professionalism/Professional Identity

5R6 (365)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.16, Level 0

### Faculty's reflective narratives and the residents' professional identity formation: A thematic analysis

#### AUTHOR(S):

- See Meng Khoo, Alexandra Hospital, Singapore (Presenter)
- Serene Wong, Alexandra Hospital, Singapore

#### ABSTRACT

**Background:** One of the most important objectives of medical education, beyond equipping the trainees with knowledge and skills essential for competent clinical practice, is to transform the trainees from lay people to professionals. Faculty's reflective narratives may help shift the training paradigm from the narrow focus of the explicit teaching of professionalism to a more comprehensive strategy of supporting the professional identity formation of their trainees.

**Summary of Work:** Semi-structured focus group discussions were conducted with 20 residents from an Internal Medicine program to explore their perspectives on how the faculty's reflective narratives, through an online forum named 'letters to residents' that periodically featured letters from the program director (PD) and faculty members, had impacted the development of their professional identity. A thematic analysis approach, informed by sensitising concepts drawn from the professional identity formation and socialisation framework, was used to identify the themes iteratively.

**Summary of Results:** Four themes were identified: Faculty's reflective narratives (1) in the right context, triggered deep reflection which led to effective socialisation and formation of professional identity; (2) were effective in supporting the reflection and socialisation process if the authors were recognised by the residents as role models; (3) were effective in provoking deep reflection if they resonated with the experiences of the residents; (4) in triggering residents' reflections, influenced the culture of the microsystem that the residents worked and trained in, which in turn impacted their daily experiences and led to socialisation and development of their professional identity.

**Discussion and Conclusions:** To our knowledge, this is the first qualitative study that explores the in-depth relationship between faculty reflective narratives and the professional identity formation of the residents. The findings from this study has helped advance our understanding in this area by uncovering the detailed relationships and interactions between faculty's reflective narratives, factors that influence residents' reflection, the process of socialisation and development of professional identity.

**Take-home Messages:** Faculty's reflective narratives, if appropriately shared by credible role models, inspired deep reflection which led to effective socialisation and development of professional identity.



## #5S Short Communications - BEME

### 5S1 (3505)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.51, Level 0

### The effectiveness, implementation and evaluation of quality improvement training programmes in surgery: a BEME systematic review

#### AUTHOR(S):

- Elena Pallari, King's College London, UK (Presenter)
- Zarnie Khadjesari, University of East Anglia, UK
- David Aceituno, King's College London, UK
- Catherine Anyango Odhiambo, King's College London, UK
- Ross Warner, Northampton General Hospital, UK
- Christopher Bastianpillai, Royal Stoke University Hospital, UK
- James Green, Bart's NHS Trust, UK
- Nick Sevdalis, King's College London, UK

#### ABSTRACT

**Background:** Quality improvement is defined as a systematic, scientific effort to make changes that improve healthcare delivery and subsequently patient outcomes, system performance and professional development. Surgical training curricula have recommended training in QI- however there are currently no specifications regarding the optimal content or delivery of such training.

**Summary of Work:** We evaluated the effectiveness, implementation, evaluation of surgical QI training interventions. We reviewed interventions based on their design, influence on knowledge and skills learning and organisational impact – including any reported benefit for patient care. There were 20,590 hits across the 10 databases, of which 11,563 studies were screened based on title and abstract following de-duplication, and 73 studies which were full text reviewed. The primary outcomes were the teaching/training programme evaluation, teaching material, pedagogical methods, while secondary outcomes focused on how the programmes were implemented. We also carried out formal quality appraisal of the evidence.

**Summary of Results:** A total of n=19 studies were included in the final synthesis, with 95% from the US and 89% in general surgery. Most studies had unclear underpinning framework (58%), setting description (63%), content (53%) and conclusions (47%), while all scored low on psychometrics reporting and were at high risk of bias (> 60% of studies). All studies used lectures, workshops, QI project either alone or in combination as pedagogical methods to teach improvement models e.g. plan-do-study-act (PDSA) cycles, system-based learning or awareness of medical errors. Finally, implementation constraints or mentorship initiatives for example were identified as a barrier or driver, respectively.

**Discussion and Conclusions:** This review highlights how QI is taught to surgeons and surgical trainees globally. Surgeons, researchers and educators can use these findings to inform the design and evaluation of surgical QI curricula. While some consistency was found in the materials taught and educational methods used, there is lack of homogeneity in educational and other outcomes. Future research should improve assessment of effectiveness of surgical QI training programs.

#### Take-home Messages:

- Heterogeneous design of evaluation studies in surgical QI training
- Lack of a coherent educational theoretical framework for the reported outcomes

## #5S Short Communications - BEME

### 5S2 (3497)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.51, Level 0

### BEME Review - How does medical education affect empathy and compassion in medical students? A meta-ethnography

#### AUTHOR(S):

- May Eng Loo, Health Outcomes & Medical Education Research (HOMER), NHG Education, National Healthcare Group, Singapore (Presenter)
- Charmaine Krishnasamy, Health Outcomes and Medical Education Research (HOMER), NHG Education, National Healthcare Group, Si, Singapore
- Sik Yin Ong, Health Outcomes and Medical Education Research (HOMER), NHG Education, National Healthcare Group, Si, Singapore
- Jill Thistlethwaite, NPS, MedicineWise; University of Technology Sydney, Australia

#### ABSTRACT

**Background:** Empathy and compassion are important in healthcare delivery, and necessary qualities for medical students to possess and demonstrate. The aims of this meta-ethnography were to explore medical students', patients' and educators' perceptions of what affects empathy and the expression of compassion; and address gaps in knowledge, attitudes and skills on how education affects empathy and the expression of compassion in medical students.

**Summary of Work:** We used the seven steps by Noblit and Hare (1988) for this meta-ethnography. CINAHL, EMBASE, ERIC, PsycINFO and PubMed databases were searched for studies in English, published from 2007-2017 with outcomes of empathy and compassion. Extracted data were coded for concepts, similarities and differences, and relationships between and across studies were explored. Key themes and concepts were identified and accounts from the studies were used to build interpretations.

**Summary of Results:** 33 qualitative studies were included. Four main themes were derived: Seeing the patient as a person; appreciating the elements of empathy and compassion; navigating in the training environment; and being guided by ideals. Interactions between the patient, the medical student and training environment which affect the development of empathy and compassion were illustrated in a conceptual model.

**Discussion and Conclusions:** Empathy and compassion arise from the unique interaction between a medical student and a care recipient. Medical students can demonstrate empathy and compassion through active listening, understanding the patient's perspective, providing relief for discomfort, and offering kind gestures to patients. The results extend our understanding of how medical education affects the expression of empathy and compassion in medical students, and lend support to and provide important considerations for medical educators and faculty developers in further developing and improving medical curricula.

**Take-home Messages:** Empathy and compassion are interpersonal, and authentic learning contexts are ideal for medical students' expression of empathy and compassion.

## #5S Short Communications - BEME

### 5S3 (3501)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.51, Level 0

### Learning from patients about patient-centredness: A realist review

#### AUTHOR(S):

- Esther de Groot, University Medical Center Utrecht, the Netherlands (Presenter)
- Johanna Schonrock-Adema, Centre for Education Development and Research in Health Professions (CEDAR), University of Groningen, the Netherlands
- Agnes Diemers, Department of General Practice and Elderly Care, and Center for Education Development and Research,, the Netherlands
- Kristin van den Bogerd, Department of Primary and Interdisciplinary Care, Skills Lab, University of Antwerp, Belgium
- Katrien Bombeke, Department of Primary and Interdisciplinary Care, Skills Lab, University of Antwerp, Belgium
- Saskia Mol, Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, the Netherlands

#### ABSTRACT

**Background:** Patient-centred work is an essential part of contemporary medicine. Literature shows that educational interventions contribute to developing patient-centredness, but there is a lack of insight into the associated learning processes. Through reviewing articles about educational interventions involving patients, we aspired to develop a program theory that describes the processes through which the educational interventions expectedly result in change.

**Summary of Work:** An initial, rough program theory was generated during the scoping phase. In our realist review, we searched for relevant articles in PubMed, PsycINFO, ERIC, CINAHL and Embase for all years before and through 2016. We included diverse studies in which the participants were students, residents, doctors, nurses or dentists. The relevance and rigour of the studies was taken into account during analysis. With deductive as well as inductive coding, we extended the rough program theory.

**Summary of Results:** We classified five different contextual aspects which affect how upcoming professionals learn patient-centredness. These aspects are influenced through components in the intervention(s) related to the learner, the patient and faculty. We placed the mechanisms together in four clusters: (1) Comparing and combining “as well as broadening” perspectives; (2) Developing narratives and engagement with patients; (3) Self-actualisation, and (4) Socialisation. Four partial-program-theories were developed, which show how different components of interventions evoke, within certain contexts, mechanisms that contribute to patient-centredness.

**Discussion and Conclusions:** These theories help us to better understand how the roles of patients, learners and teachers interact with context elements such as the kind of knowledge that is considered legitimate or insight in the whole illness trajectory. Our program theories open up potential areas for future research and interventions that may benefit teachers, learners and patients

**Take-home Messages:** When developing an intervention aimed at learning patient-centredness, educators could benefit by explicitly taking the context into account. Our review will potentially provide valuable points for discussion and reflection, but not a simple ‘to do’ list. For researchers, one of our main recommendations would be to be more explicit about the sociocultural aspects of the context in which they plan to implement their intervention.

## #5S Short Communications - BEME

### 5S4 (876)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.51, Level 0

### Multi-level learning in general practice

#### AUTHOR(S):

- Marie-Louise Dick, The University of Queensland, Australia (Presenter)
- Margaret Henderson, The University of Queensland, Australia
- Yi Wei, The University of Queensland, Australia
- David King, The University of Queensland, Australia
- Katrina Anderson, Australian National University, Australia
- Jill Thistlethwaite, University of Technology, Australia

#### ABSTRACT

**Background:** Increasing educational and supervisory demands on already-busy general practitioners (GPs), resulting from increasing numbers of medical students and graduates undertaking training in community-based settings, has become a concern in recent years. Multi-level learning (MLL), or teaching and learning that is shared across different levels of learners, is one strategy proposed to assist in addressing these demands.

**Summary of Work:** We undertook a BEME (Best Evidence Medical Education) systematic review of the literature to identify the benefits, challenges and facilitators of MLL initiatives in community-based general practice. We used a realist synthesis approach to explore mechanisms and contexts to explain the outcomes.

**Summary of Results:** We found 15 papers providing primary research evidence relevant to our research questions. Benefits of MLL were reported across all learner levels including: learning from colleagues closer in age and experience to themselves (cognitive and social congruence) for medical students; clinical and personal benefits for general practice registrars; and time and financial efficiencies for some GPs and practices. Several key mechanisms thought to support our hypotheses about successful MLL outcomes were identified. Of these 'a strong teaching culture' was widely represented, and was considered a context for most other key mechanisms.

**Discussion and Conclusions:** The identified findings demonstrate that MLL can be successful in the general practice setting given the appropriate contexts. Compared with non-MLL teaching initiatives, MLL has the potential to provide a broader range of teaching methods and experiences for learners, as well as time and financial efficiencies for some practices. We believe that the findings of this review can help to inform educators and practices considering the use of MLL approaches in general practice, and potentially other community-based settings.

**Take-home Messages:** MLL approaches in the general practice setting can provide benefits to all levels of learners, however it is important to adopt flexible teaching and learning methods that best suit the participating learners and practices.

## #5S Short Communications - BEME

5S5 (934)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.51, Level 0

### Developing collaborative healthcare education programmes for staff in low and middle income countries

#### AUTHOR(S):

- Elaine Hill, University of Central Lancashire (UCLan), UK (Presenter)

#### ABSTRACT

**Background:** As recent Ebola outbreaks have demonstrated, health problems and their solutions transcend national boundaries. Large discrepancies exist between standards of healthcare provision in developed and developing countries. The root cause is often financial, resulting in poor infrastructure and under-resourced educational and healthcare systems<sup>1</sup>. Continuing professional education (CPE) programmes improve staff knowledge, skills, retention and practice, but remain costly and rare in the developing world. One potential solution involves healthcare education collaborations between institutions in developed and developing countries to provide culturally-appropriate CPE in low/middle income countries<sup>2</sup>.

**Summary of Work:** A focussed systematic review was undertaken to ascertain how frequently such collaborations occur, how they are undertaken and their impact on healthcare education and practices in developing countries.

**Summary of Results:** From 36 citations, 6 potential studies were fully screened. Most focussed on distance learning for doctors, nurses or midwives, with outcomes at level 1 on Kirkpatrick's hierarchy<sup>3</sup>. Educational partnerships involved a variety of developed and developing countries and educational settings.

**Discussion and Conclusions:** Despite their acknowledged importance, such collaborations appear uncommon. When they occur their effectiveness may be hampered by developed nations failing to fully appreciate the practical challenges and cultural differences between themselves and their developing country partners. Published literature regarding international collaboration for healthcare CPE is rare, with no consensus on the most effective partnership-working or educational approaches to use.

**Take-home Messages:** In an increasingly connected world, collaborations which aid healthcare education in developing countries are both practically and ethically significant but further research is required to determine the best approach. A BEME review is in progress to try and address this.

**References:** (1) Kim D-H, Yoon HB, Sung M, Yoo D-M, Hwang J, Kim EJ, Lee S, and Shin JS. Evaluation of an international faculty development program for developing countries in Asia: the Seoul Intensive Course for Medical Educators. BMC Med Educ. 2015;15:224.

(2) Buchan J, Campbell, J. Challenges posed by the global crisis in the health workforce. BMJ. 2013; 347, f6201.

(3) Kirkpatrick DL. Evaluation of training. In: Craig LR, Bittel RL, editor. Training and development handbook. New York: McGraw-Hill; 1967. pp 87-112.



## #5S Short Communications - BEME

### 5S6 (3505)

**Date of Presentation:** Monday, 26 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.51, Level 0

### A BEME Review on the Utility of Mini-CEX in Undergraduate and Postgraduate Medical Education

#### AUTHOR(S):

- Sara Mortaz Hejri, Tehran University of Medical Sciences, Iran (Presenter)
- Mohammad Jalili, Tehran University of Medical Sciences, Iran
- Rasoul Masoomi, Tehran University of Medical Sciences, Iran
- Mandana Shirazi, Tehran University of Medical Sciences, Iran

#### ABSTRACT

**Background:** The Mini-Clinical Evaluation Exercise (Mini-CEX) is used for assessing performance of undergraduate and postgraduate medical trainees in workplace. This systematic review aimed at exploring and synthesizing the evidence considering utility (validity, reliability, educational impact, acceptability, feasibility and cost) of the mini-CEX.

**Summary of Work:** Followed by the published BEME-approved protocol, eight electronic databases were searched. No study was excluded on the grounds of design, location, or language. Data extraction and quality assessment were done by two authors. Discrepancies were resolved by a third reviewer. Descriptive synthesis was used to address the review questions.

**Summary of Results:** Out of 2259 citations, 58 papers were included. Number of participants ranged between 8 and 1149; and 16 to 7808 mini-CEXs forms were completed in different studies. Reliability: Chronbach's alpha ranged from 0.58 to 0.97. The number of encounters needed for a desirable G coefficient varied greatly. Validity: Most studies showed that with the increasing levels of competence, the scores of mini-CEX increased significantly. Factor analyses proved a single factor solution. Moderate to high correlations between mini-CEX scores and other clinical exams were reported. Acceptability: Satisfaction was high among both trainees and assessors. Yet, some found mini-CEX to be anxiety provoking, or hard to determine the necessary standard. Educational impact: Respondents were generally positive. Participants found this tool as a valuable educational tool which helped them identify their strength and weaknesses, which provide insight into their clinical competence. Many studies found that a kind of feedback had been provided in the majority of mini-CEX encounters, but the accuracy and usefulness of the feedback provided was questioned by many studies. Cost and feasibility: Only one paper estimated cost as \$A 80,000 per year. Mean observation time and feedback time ranged from 12.3 to 46.5 minutes, and from 5.7 to 20.1 minutes, respectively.

**Discussion and Conclusions:** The mini-CEX is widely used as a formative and summative assessment tool and appears to have reasonable validity and reliability. The reported acceptability and feasibility should be interpreted in the light of required number of encounters. By providing a framework for structured observation and feedback, the mini-CEX bears a favorable educational impact.

## #5T Conference Workshop

### 5T (661)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room L5, Level 1

### Revealing the hidden curriculum and professional culture in the clinical workplace: a practical tool for trainees and faculty

#### PRESENTER(S):

- Hanneke Mulder, University Medical Center Utrecht, School of Medical Sciences, The Netherlands
- Jacqueline van Wijngaarden, University Medical Center Utrecht, The Netherlands
- H. Carrie Chen, Georgetown University School of Medicine, USA
- Olle ten Cate, University Medical Center Utrecht, The Netherlands

#### ABSTRACT

**Background:** The 'hidden curriculum' refers to the set of implicit messages about values, norms, and attitudes that trainees infer from the behaviour of individual role models as well as from group dynamics, processes, rituals and structures. The hidden curriculum is considered highly influential in medical education, especially in the clinical workplace, and is known to affect patient safety and wellbeing of faculty and trainees. It is often described solely from the trainee perspective and in negative terms. This workshop analyses the hidden curriculum of the clinical workplace, includes multiple perspectives, and addresses both its positive and negative effects. We will introduce a practical and non-judgmental approach using the tool REVIEW (Reflecting & Evaluating Values Implicit in Education in the Workplace), to facilitate reflection, discussion and action on the hidden curriculum and professional culture. REVIEW, based on Q-sort methodology, has been used successfully by individuals and teams, including faculty members and trainees, to elucidate and constructively address the hidden curriculum within training programs and clinical units/departments.

**Who Should Attend?** Educators interested in the implicit aspects of learning, especially in workplace learning, and educational leaders and administrators with responsibility for improving the workplace learning environment for any level of medical education.

**Structure of Workshop:** A brief didactic presentation will introduce the concepts of 'hidden curriculum' and 'culture', describe the REVIEW tool and procedures, and provide an overview of our experiences using REVIEW in graduate and postgraduate medical education. We will then engage participants in an exercise using REVIEW, providing them with the opportunity to experience the tool themselves. A final discussion will focus on possible applications of REVIEW in participants' own settings.

**Intended Outcomes:** Participants will leave the workshop with

- Increased awareness of the hidden curriculum as a reflection of the professional micro culture of a clinical team and of its relevance for workplace learning
- Practical experience using the REVIEW tool to elucidate the hidden curriculum
- Insight into the strategies, best practices, and challenges for using REVIEW in undergraduate and postgraduate medical education
- Exploration of ways to apply REVIEW in participants' own setting

**Level:** Introductory

## #5U Conference Workshop

### 5U (3136)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room L8, Level 1

### Refugees' and Migrants' Health in Medical Curricula

#### PRESENTER(S):

- Evangelos Papageorgiou, EMSA - European Medical Students' Association, Greece
- Aikaterini Dima, IFMSA - International Federation of Medical Students' Associations, Greece
- Janusz Janczukowicz, AMEE, Poland
- Petra Verdonk, Amsterdam UMC, VUmc, The Netherlands
- Veronica Sellegger, Amsterdam UMC, VUmc, The Netherlands
- Hiba Ghandour, IFMSA - International Federation of Medical Students' Associations

#### ABSTRACT

**Background:** Following the recent refugee crisis, there has been an ongoing discussion in AMEE on what should be done in support of refugee medical students in Europe. In the AMEE Conference 2018 in Basel, members from AMEE, IFMSA and EMSA decided to organize a workshop on the topic of "Student Refugees in Europe: Barriers & Solutions to University Enrollment and Retention", which gained a lot of attention from participants. Two Syrian refugee students joined us and shared their experience with continuing their medical studies in European Universities. Moving forward, it is important to shift our focus towards Refugees and Migrants Health in Medical Curricula and to evaluate if it is addressed enough, and most importantly, if it is addressed appropriately. Our times are unpredictable and there are many conflict zones in the world and multiple populations in danger; this is a reality that doctors will have to face in their work. With that thought in mind, it is of utmost importance to prepare the future medical and health professionals to be able to deal with these very vulnerable patient groups, protect their right to health and treat them appropriately.

**Who Should Attend?** The workshop could be of interest to academic staff, curriculum developers, policy makers in education and students.

**Structure of Workshop:** The workshop will consist of the following parts:

- Review of AMEE, IFMSA and EMSA involvement in the refugee crisis
- Presentation of last year's workshop outcomes and the link between the two workshops
- Sharing of best practices in refugees' and migrants' health education from experts
- Small working group discussion on the challenges that present while trying to include refugees' and migrants' health in medical curricula

**Level:** Introductory

## #5V Conference Workshop

### 5V (3494)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 0.11-12, Level 0

### Problem Students or Problem Teaching? Exploring approaches to engaging students in their learning

#### PRESENTER(S):

- Ian Hall, Advance HE, UK
- Kathy Wright, Advance HE, UK

#### ABSTRACT

**Background:** Many university teachers experience “problem students” in their classes. The underlying causes of these problems may be many and varied, but working with successful learners is the aim of all university level teachers. University academics are experts in their disciplines but are they also aware of the literature on effective learning and teaching? According to a study by Bok (2009) only 8% of professors reported taking ‘any account of research into teaching and learning in preparing their classes’. In this session we ask whether this could be a contributory factor in the problem of students who are disengaged in their studies. A 2010 OECD report on learning sciences research identified the role of emotions and motivation in successful and unsuccessful learning experiences. In this workshop we will explore the ways in which students learn and how we can best support their learning, through effective learning design and outcome-led teaching. This workshop will also consider the sector work on high impact pedagogies, including the findings of our HEA 2015 report, ‘Engaged student learning: high impact strategies to enhance student achievement’ to help us to consider designing learning opportunities which can lead to student success.

**Who Should Attend?** Staff with an interest in teaching and learning in higher education, either as a teacher/lecturer or those with leadership or management responsibilities for teaching.

#### Structure of Workshop:

- Welcome/Introductions
- Lessons from learning sciences
- Designing learning for student success
- Approaches to engaging students in partnership
- Action planning and next steps

**Intended Outcomes:** By the end of the workshop, participants will be able to:

- Understand the importance of positive learning environments in learning
- Be equipped to use teaching strategies to engage students

**Level:** Introductory/Intermediate



## #5W Conference Workshop

### 5W (2777)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 0.49-0.50, Level 0

### What is Your Shape: Understanding the Roles of Types of Expertise in Health Professional Education

#### PRESENTER(S):

- Elizabeth Wooster, OISE/University of Toronto, Canada
- Douglas Wooster, University of Toronto, Canada

#### ABSTRACT

**Background:** Currently there is a developing discussion within other professions regarding the “shape” of practitioners who will be successful in the future. This discussion revolves mainly around the difference between the “T” and the “pi” practitioner. A “T” practitioner is someone who has knowledge over a number of different areas with deep knowledge in one specific area. A “pi” practitioner is someone who has deep knowledge in two specific areas in addition to general knowledge covering multiple areas. The facilitators posit that there are, in fact, five different “shapes” of practitioners and that practitioners may move from one shape to another throughout their practice. Garnering a deeper understanding of the different shapes and how they can be used to maximize health professional education to impact patient care and development of educational strategies is necessary to be a successful practitioner.

**Who Should Attend?** Anyone who plays a role in developing curriculum or has responsibility for mentoring or training current and future practitioners.

**Structure of Workshop:** The workshop will combine a series of short didactic lectures interspersed with interactive sessions. The interactive sessions will include the following types of exercises to encourage participants to share their experiences and learn from each other: think, pair, share; popcorn; visual Likert scales; small group and large group discussions.

**Intended Outcomes:** At the end of this workshop, participants will be able to:

- 1) Describe the five different “shapes” and how they relate to the expertise development
- 2) Explain how each different shape may influence and facilitate the development of practitioners
- 3) Delineate how the use of these shapes to develop practitioners may improve patient care
- 4) Assess the current environment of their home institution
- 5) Develop a strategy for instituting the “shape” framework.

**Level:** All levels are welcome. Familiarity with overarching skill development across the continuum would be a benefit but is not essential.



## #5X Conference Workshop

5X (2500)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 0.96-97, Level 0

### Bringing the lay voice into medical education: the use of 'patient and public' representatives in Specialty Recruitment and Medical Education in the UK

#### PRESENTER(S):

- Jonathan Howes, Health Education England, UK
- Sheona MacLeod, Health Education England, UK
- Clare Wright, Health Education England, UK

#### ABSTRACT

**Background:** There has been significant medical and educational resource invested in the development of sophisticated methods to support the selection of doctors into postgraduate medical training and their progression through training. Yet, although the role of a doctor is centred around the care of patients, the input of lay representatives, patients and the public into doctors' recruitment and selection and their subsequent assessment, is very variable. The UK Medical and Dental Recruitment and Selection Quality and Standards committee was created to improve standards and equity across all UK medical recruitment and selection processes. The committee has reviewed the role of lay representatives in recruitment processes, identified best practice and developed guidance to support its adoption and spread. The review of the progression of doctors in training in England also provided insights into best practice in this area

**Who Should Attend?** Anyone interested in or involved with recruitment to or delivery of specialty training programmes

**Structure of Workshop:** In this workshop we will share our experience of embedding the lay voice in our recruitment, selection and progression processes, and what we have learnt from incorporating this different perspective.

**Intended Outcomes:** It will provide an opportunity for others to share their initiatives and ideas and will open the debate around whether we are delivering doctors with the knowledge, skills and attitudes that patients want, rather than those with attributes valued by the medical profession

**Level:** All levels of knowledge

## #5Y Conference Workshop

5Y (384)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.17, Level 2

### Vibrate to Communicate

#### PRESENTER(S):

- Linda McCrorie, University of Nicosia Medical School, Cyprus
- Peter McCrorie, University of Nicosia Medical School, Cyprus

#### ABSTRACT

**Background:** Students often experience communication difficulties in a number of situations, e.g. while working in groups which require their active participation, during consultations with patients, in an OSCE situation or presenting in front of their peers and professors. Faculty also experience communication difficulties when lecturing or speaking in public. Many of these issues arise from lack of confidence, caused by insufficient preparation, nervousness, shyness, poor voice production and tight body language. In this workshop, we will offer ideas on how to work with students and faculty to help them become more confident when communicating, by working on their breathing technique, voice production and spoken language skills, body language and PowerPoint presentation skills.

**Who Should Attend?** Students; Faculty, especially those involved in student support and/or faculty development; Faculty involved in delivering lectures

#### Structure of Workshop:

Plenary: Overview of presenters' experience in helping students and faculty build their confidence when speaking in public.

Group activities: - simple Pilates movements - breathing exercises - voice projection exercises - group reading.

Interactive Plenary: PowerPoint presentation guidelines.

Questions.

**Intended Outcomes:** By the end of the workshop, participants will:

- use their voices more confidently
- understand the benefits of breathing exercises
- have a method for approaching any presentation with less nervousness
- be able to give a visually and orally improved presentation

**Level:** Basic - no prior knowledge required

## #5Z Conference Workshop

5Z (2694)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.44, Level 2

### Integrating the Arts and Humanities into Medical Education: Lessons From Across the Globe

#### PRESENTER(S):

- Alison Whelan, AAMC, USA
- Elizabeth Gaußberg, Harvard Medical School, USA
- Quentin Eichbaum, Vanderbilt University, USA
- Pablo González Blasco, SOBRAMFA, Brazil

#### ABSTRACT

**Background:** The Association of American Medical Colleges (AAMC) has launched a major initiative to advance the integration of the arts and humanities across the continuum of medical education. A growing evidence base suggests that learning experiences that integrate arts and humanities within curricula may lead to a variety of important learning outcomes. These include skills-based outcomes such as honing observation and interpretation skills, relational outcomes such as empathy, communication, and teamwork, and transformational outcomes at the level of professional identity formation and advocacy. In this session, the foundational importance of the arts and humanities to medical education will be highlighted and lessons from international colleagues will be shared. Linkages to key medical education learning outcomes will be made, and the educational research to support these practices will be shared.

**Who Should Attend?** (1) Medical and health professional educators across the continuum of education (2) Educators, learners and administrators who are considering integrating arts and humanities into curricula at their institution and are seeking guidance on which approach may be most appropriate and feasible. (3) Educators, learners and administrators with a general interest in the arts and humanities and wishing to hear alternate perspectives and approaches.

**Structure of Workshop:** Dr Whelan will begin by briefly describing the strategic efforts by the AAMC to integrate arts and humanities in medical education. Three educators from diverse institutions will describe their efforts to integrate the arts and humanities. Following these mini presentations, the attendees will be invited to consider opportunities for integration within their local institutions and the needs to support these efforts. The speakers will also serve as a panel to engage the audience in discussion about the current and future opportunities for advancing healthcare and clinical wellbeing through the integration of arts and humanities in education.

#### Intended Outcomes:

1. A deeper appreciation of the value of integrating the arts and humanities into health professional development and education.
2. An understanding of the medical education learning outcomes that can be advanced using the arts and humanities.
3. Assessment of the needs at the local and broader levels for further integrating the arts and humanities into curricula.

**Level:** Varied

## #5AA Conference Workshop

### 5AA (1722)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.61, Level 2

### Clinical Reasoning Assessment in the Workplace: What Tools are in your Toolbox?

#### PRESENTER(S):

- Michelle Daniel, University of Michigan Medical School, USA
- Steven Durning, Uniformed Services University of the Health Sciences, USA
- Temple Ratcliffe, University of Texas Health San Antonio, USA
- Larry Gruppen, University of Michigan, USA
- Eric Holmboe, Accreditation Council for Graduate Medical Education, USA
- Stuart Lubarsky, McGill University Faculty of Medicine, Canada

#### ABSTRACT

**Background:** Clinical reasoning entails conscious and unconscious cognitive operations in which clinicians observe, collect and analyze information to diagnose and treat patients (Eva, 2007; Durning et al, 2011). Clinical reasoning has been identified as a core competency, essential for safe and effective patient care. Ensuring the development of clinical reasoning competence requires robust programs of assessment. Workplace-based assessments (WBAs) are essential components of any comprehensive clinical reasoning assessment strategy. A recent scoping review by the authors (Daniel et al, 2018) identified 7 different WBA methods. Educators will recognize some of these methods, including direct observation (e.g., mini-CEX) and global assessments (e.g., end-of-clerkship evaluations). Other methods may be less familiar, including chart stimulated recall, think aloud, and self-regulated learning microanalysis. Each method differs in its potential validity, reliability, feasibility, and components of the clinical reasoning construct it measures. This workshop will provide an overview of the different types of workplace-based assessments, as well as their strengths and weaknesses. We will discuss challenges associated with implementing different types of WBAs (e.g., the non-systematic nature of clinical practice, content specificity, rater variations, time and resource utilization) and strategies to overcome them. Participants will leave better equipped to implement programs of clinical reasoning assessment at their home institutions.

**Who Should Attend?** Faculty and administrators with interest in clinical reasoning assessment across the continuum.

#### Structure of Workshop:

- Introductory didactic (overview of WBAs of clinical reasoning and validity primer)
- Table top discussions (Which WBAs do participants currently use? What are their strengths and weaknesses?)
- Panel of experts (discuss different WBAs, their common uses, validity, and feasibility concerns)
- Table top discussions (Given X level learner, what additional methods might you want to use to ensure a robust program of clinical reasoning assessment? What are issues of feasibility? What are strengths and limitations in regards to validity? How can you best manage the threats to validity?)

#### Intended Outcomes:

- Describe the strengths of different WBAs
- Identify threats to validity for different WBAs
- Outline a program of WBA that balances strengths and limitations of validity, while addressing feasibility

**Level:** Intermediate - Advanced

## #5BB Conference Workshop

### 5BB (2313)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.83, Level 2

### Followership - The Forgotten Key to Leadership

#### PRESENTER(S):

- Benjamin Berg, Simtiki Simulation Center, John A Burns School of Medicine, USA
- Yoko Akamine, Osaka City General Hospital, Japan
- Nobuyasu Komasa, Osaka Medical College, Japan
- Gen Ouchi, University of Ryukyus, ChuraSim Simulation Center, Japan

#### ABSTRACT

**Background:** Workshop focus is on definitions, skills, and assessment of Followership concepts for Interprofessional, Healthcare, Teamwork and Leadership training. Followership constructs play a key role in team dynamics. Leadership functions and skills in teamwork training are increasingly incorporated in healthcare training from organizational management to bedside team care. Leadership is identified as a team element, without explicit recognition of followership constructs. Teamwork training paradigms incorporate followership skills such as situational awareness and non-hierarchical behavior. Followership studies in non-healthcare domains yielding mature definitions of “followership style”. Followership is the role of supporting leadership functions. Followership is a process whereby followers apply specific interactive skills and attitudes and engage in constructive critical thinking to support Leadership functions in teamwork. Exemplary followers are accountable, and effectively influence leadership decisions and actions. Defined leadership styles include : Alienated, Exemplary, Passive ,and Conformist. Individual Followers may exhibit mixed Followership styles. To understand and apply Followership constructs training should allow followers and leaders both to understand and reflect on their own Followership style.

**Who Should Attend?** Healthcare educators interested in facilitating experiential learning focused on teamwork, leadership, or faculty development for simulation instructional skills. Attendees from varying disciplines, experience, and educational settings are welcome. Simulation based teaching experience is not required.

#### Structure of Workshop:

15 min: Welcome/Introduction - PowerPoint/ Audience Response System (ARS) Followership core concepts and definitions. Kelly and Challef terminology/ARS

20 min: Key Followership skills - Facilitated breakout groups -Discuss and list followership skills, characterize “styles”, share examples -Facilitated group Summaries

10 min: Integrating Followership Concepts - Powerpoint/ARS

35 min: -Followership video assessment exercise -Video review by small groups, each with an assigned focus -Facilitated discussion and review of small group observations

10 min: Q/A and Course evaluation

#### Intended Outcomes:

Understand concepts of Followership for curriculum integration in teamwork and leadership training programs. Workshop facilitated small group discussions support an opportunity to assess and reflect on Followership using a defined rubric.

#### Objectives:

- List two definitions of Followership
- Describe four followership styles for integration in scenario design/learner assessment
- Assess and Identify followership styles in video vignettes

**Level:** Novice, intermediate, and advanced level facilitators and education designers.



## #5CC Conference Workshop

### 5CC (1898)

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.95, Level 2

### Using activity theory to maximise the effectiveness of reflective ePortfolios

#### PRESENTER(S):

- Uzma Tufail-Hanif, University of Edinburgh, UK
- Morkos Iskander, University of Lancaster, UK

#### ABSTRACT

**Background:** In the UK, in common with many other countries, regular reflective practice is mandated and evidence required for continued accreditation. A common method of fulfilling this requirement has been through the use of an ePortfolio, encouraging healthcare professionals to record experiences relating to standards of practice. Critical reflection should lead to improvements in clinical care by 1) developing the healthcare professional's awareness of their own practice within the wider context of medicine as a whole and 2) enabling an effective response to feedback. Reflection therefore has the potential to generate change in practice, but this is an inconsistent outcome when ePortfolio entries are restricted to factual descriptions of events with little or no reflection. Activity theory has been used to derive a framework for critical reflection that can be used to assess one's own and current practice to allow areas for improvement to be identified. This workshop will examine frameworks for structuring reflective writing and introduces an activity theory derived framework which promotes goal-directed learning.

**Who Should Attend?** 1) Healthcare professionals interested in the use of Reflective ePortfolios as a tool to support lifelong learning. 2) Participants who wish to use reflective writing to stimulate personal and professional development.

**Structure of Workshop:** The workshop will begin with an introduction to the use of reflective ePortfolios and the practice of reflection. A number of frameworks that can be used to structure reflections will then be outlined. During the workshop participants will be given opportunities to practise reflective writing. Participants will also receive a Getting Started handout summarising key aspects of the workshop.

**Intended Outcomes:** At the end of the workshop, participants should

- 1) be able to realise the potential of technology enhanced reflective ePortfolios to facilitate active lifelong learning
- 2) be able to utilise a variety of frameworks for reflection
- 3) know how to exploit complex or adverse situations so that each event becomes an opportunity for concrete learning and self-development

**Level:** All

## #5DD ePosters - Diversity

### 5DD01 (254)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Demographics and career interest of students in a novel high school STEM academy designed to increase diversity in the health professions

#### AUTHOR(S):

- Reamer Bushardt, George Washington University School of Medicine & Health Sciences, USA (Presenter)
- Catherine Golden, George Washington University School of Medicine & Health Sciences, USA
- Linda Zanin, George Washington University School of Medicine & Health Sciences, USA
- Maranda Ward, George Washington University School of Medicine & Health Sciences, USA
- Robert Turner, George Washington University School of Medicine & Health Sciences, USA
- Marcia Firmani, George Washington University School of Medicine & Health Sciences, USA

#### ABSTRACT

**Background:** Despite scientific and technological advancements in U.S. healthcare, health inequity and workforce diversity are major problems. Health inequities by income, race/ethnicity, education, insurance status, and English-competency persist. An urban private academic medical center and public high school partnered in 2018 to implement a novel secondary education STEM academy to increase workforce/trainee diversity.

**Summary of Work:** During the last four years of secondary education, students complete secondary and dual-enrollment courses in a healthcare-focused academy. At graduation, students earn healthcare certifications, college credit and advantage for admission into healthcare programs. The inaugural cohort of students (ages 14-15 years) self-reported various measures via voluntary electronic survey (e.g. demographics, academic/career interests, knowledge of health professions, academic/career plans). The survey was piloted prior to administration.

**Summary of Results:** Respondents (N=77 of 104, RR=74%) were 81.8% female and 60% non-white/multiracial. Demographics were 40% white, 18.2% black, 10% Asian, and 18% Hispanic/Latino. Around 30% spoke English as a second language, of which 32.5% spoke ≥2 languages fluently. About half were from neighborhoods with household incomes \$60,000-80,000 USD/year and most had parent(s) with bachelor's degree or higher (57.1%). Some had relatives working in healthcare (24.7%). Motivations for participation included interest in working with patients (90.9%), personal interest in medicine (92.2%) or health sciences (58.4%) and feeling the program would help successful career attainment (26%). Students reported anticipated challenges with academic difficulty, heavy workloads, and time management. Few could independently describe key aspects of common health professions (e.g. skill/education requirements, salary) except for nursing. Most (62.3%) intend to pursue a 4-year degree with highest interest in nursing (44.2%) and surgery (37.7%).

**Discussion and Conclusions:** These students are more ethnically diverse than the US workforce they are designed to enter. Language competencies were advantageous considerate of regional population needs. Students lacked sufficient breadth and depth of understanding of health careers for optimal academic/career planning and require individualized mentoring/advisement. Longitudinal qualitative/quantitative measures will be collected to assess performance, attitudes, perceptions, and career outcomes.

**Take-home Messages:** Diversity in the US healthcare workforce and student pipeline, including individuals from disadvantaged backgrounds, is inadequate. Innovative approaches to improve workforce and trainee diversity, lower costs/time of education, and increase health equity are needed.

## #5DD ePosters - Diversity

### 5DD02 (798)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

## The preliminary result of motivational drive chart to Japanese female medical doctors

### AUTHOR(S):

- **Fukuko Moriya, Kurume University School of Medicine, Department of Pathology, Japan (Presenter)**
- Tatsuyuki Kakuma, Kurume University, Biological Analyzing Center, Japan
- Hitoshi Obara, Kurume University Hospital, Clinical Research Supportive Center, Japan
- Mizuho Kido A., Anatomy & Physiology, Faculty of Medicine, Saga University, Japan
- Hirohisa Yano, Kurume University School of Medicine, Department Of Pathology, Japan
- Takuji Torimura, Kurume University School of Medicine, Gastroenterology, Japan

### ABSTRACT

**Background:** Japanese society has had long-held stereotype division between the social roles of men and women. Some female medical doctors pursue their career after childbirth, but others are compelled to stop working due to childbirth or childcare. There are few formal studies for qualifying or quantifying the motivational changes of Japanese female medical doctors. Analyzing how their working motivation is driven by life-time events is very effective to encourage them to pursue their career.

**Summary of Work:** The university hospitals of Kurume and Saga designed a questionnaire to study working motivation focusing on female medical doctors with childcare experience. We charted our findings and came up with our original 'Motivational drive chart'. This chart reflected the change of working motivation. It requires to note the age, the motivational value, and the life-time event when the value moves. We randomly chose 39 female medical doctors, which is equivalent to about 7.5 percentage of female doctors' population in these areas. We analyzed their motivational charts by STATA 15(Stata Corp).

**Summary of Results:** The range of age of those interviewed is 30 to 46. The motivational value drops in 25-30 years old significantly ( $P < 0.001$ ), but gradually increases in 30-35 years old significantly ( $P < 0.05$ ). Childbirth, childcare or anxiety on career development and unbalance of work and childcare is significantly relevant to the drop of working motivation in 25-30 years old. Otherwise getting a medical specialist license is significantly relevant to the increase of motivation in 30-35 years old. In 35-40 years old, their motivational value significantly decreases by childbirth and childcare or family to get sick.

**Discussion and Conclusions:** Japanese female medical doctors can work just like male doctors can. However once they give birth, they can no longer work in the same way as before because housekeeping and taking childcare are Japanese female's role. We guess that the drop of working motivation by childcare might have a relationship to Japanese social roles. We should find the reason why Japanese female medical doctors lose their motivation by childbirth or childcare.

**Take-home Messages:** Japanese female medical doctors drop their motivation after childbirth and during childcare. We want participates from other countries to know the plight of them.

## #5DD ePosters - Diversity

### 5DD03 (905)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### How to use entrustable professional activities (EPAs) to teach cultural competence and diversity issues to undergraduate medical students

#### AUTHOR(S):

- Jeanine Suurmond, Amsterdam UMC, The Netherlands (Presenter)
- Ines Rupp, Amsterdam UMC, The Netherlands

#### ABSTRACT

**Background:** EPAs are core units of professional practice that can be fully entrusted to a trainee as soon as he or she has demonstrated the necessary competence to execute the activity unsupervised, and thus reflect the objectives of postgraduate training, but because EPAs are composed of different CANMED roles and are executable, observable, and measurable in process and outcomes, they are increasingly being used in undergraduate training as well. For this purpose, the Utrecht Framework defines five core EPAs and 31 small nested EPAs. For example, one core EPA is: informing, advising and guiding patients and families and consists of 3 nested EPAs: (1) Discussing diagnostic options and obtaining informed consent: (2) Discussing test results, prognosis, and a management plan and (3) Discharge conversation. While medical schools need to prepare students to deliver care to diverse patient populations, the question is: Can EPA's be used for observing and assessing tasks and responsibilities related to diversity responsive care?

**Summary of Work:** We used the framework of cultural competence to describe knowledge, attitudes and skills to deliver diversity responsive care, eg the skill to use interpreters in case of language barriers or the skill to communicate in case of cultural conflicts. Using this framework, we analyzed whether the core EPAs described these specific knowledge, attitudes and skills or whether adaptations are needed.

**Summary of Results:** There are (at least) two ways to make the above mentioned EPA diversity sensitive: 1. The skill 'to use interpreters when needed' can be added as a fourth nested EPA. 2. EPA's may be rewritten, e.g., the second nested EPA can be rewritten into: 'Discussing test results, prognosis, and a management plan taking into account socio-cultural factors' so that cultural conflict is managed.

**Discussion and Conclusions:** It is relatively easy to map the concept of cultural competence to EPAs. As a next step we would recommend to obtain consensus, for example in a Delphi study with experts, on what EPAs are most relevant for cultural competence training and when they can be entrusted.

**Take-home Messages:** The framework of cultural competence can be used to refine EPAs. The refined EPAs can be used to better assess cultural competences of students.

## #5DD ePosters - Diversity

### 5DD04 (1380)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Trend of proportionally increased female physicians and dermatologists among the top medical graduates in Taiwan: a retrospective 30-year analysis

#### AUTHOR(S):

- Yung-Wei Chang, Department of Dermatology, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan (Presenter)
- Chih-Hung Lee, Department of Dermatology, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan, Taiwan

#### ABSTRACT

**Background:** Tsungming Tu Foundation has awarded the number one medical graduate from each medical school in Taiwan every year for more than 30 years.

**Summary of Work:** 322 top medical graduates and 40075 medical graduates were identified from 1981 to 2017, based on the public-accessible data from the foundation and from Taiwan health authorities.

**Summary of Results:** The percentage of female overall graduates increased from 10.9% before 1994 to 32.6% after 2012 (linear trend,  $p < 0.001$ ). Similarly, the percentage of top female graduates increased from 23.1% before 1994 to 42.4% after 2012 (linear trend,  $p = 0.003$ ). The result also showed that more top students favor dermatology, ophthalmology, and neurology as their careers and disfavor general surgery the most ( $p < 0.001$ ). The top medical graduates tended to work in medical centers than other medical graduates did. However, the percentage of the top medical graduates working in medical centers dropped significantly from 58% during 1981-1994 to 33.3% during 1995-2001 ( $P = 0.035$ ), which may be attributed to the incorporation of National Health Insurance in 1995 with leftism.

**Discussion and Conclusions:** The proportion of female top medical graduates has been growing during the last three decades. These top medical graduates tended to choose medical specialty of dermatology and ophthalmology but disfavored general surgery during the past three decades. Female medical graduates constantly increased in proportion to 32.6% recently and they compete male graduates to gain the top graduation award for 42.4%. The health policy and reimbursement policy may affect the all medical graduates and top medical graduates to choose their specialty as their careers.

**Take-home Messages:** An increased focus on the impact of National Health Insurance in Taiwan and the annual cap of dermatology residency capacity has influenced the specialty choices of top medical graduates. The proportion of female top medical graduates has been growing during the last three decades. These top medical graduates tended to choose medical specialty of dermatology, ophthalmology, and neurology but disfavored general surgery during the past three decades. The health policy and reimbursement policy may affect the all medical graduates and top medical graduates to choose their specialty as their careers.



## #5DD ePosters - Diversity

### 5DD05 (1435)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Lack of representation in clinical skills manikins: Is this contributing to differential attainment in undergraduate medical education?

#### AUTHOR(S):

- Peter Tamony, St George's, University of London, UK (Presenter)

#### ABSTRACT

**Background:** Addressing the ethnicity attainment gap is a key goal for medical schools. Data shows that Black, Asian, and minority ethnic students (BAME) have poorer educational outcomes than their White colleagues. There are several hypotheses for this, including BAME students feeling isolated and institutional bias. There is a paucity of literature on how this can be addressed in clinical skills teaching during medical school and whether using manikins with non-white skin colour increases inclusivity of BAME students.

**Summary of Work:** St George's, University of London (SGUL) uses 4 main suppliers for clinical skills models. During the early years of the medical degree (MBBS) programme the following models are used: venepuncture/cannulation, peripheral arterial blood gas sampling, digital rectal examination, male pelvic examination, female pelvic examination, urinary catheterisation, obstetric examination, breast examination, intramuscular injection, airway management, and otoscopy. Academic staff are not directly involved in the procurement process. The authors set out to document what number of darker skin models the department currently has, and what models are offered by their suppliers.

**Summary of Results:** SGUL has 223 models used for teaching 11 different clinical skills during the MBBS programme. All 223 models have pale skin colouring. Dark skin models are available for 3 of the procedures SGUL teach (venepuncture/cannulation, intramuscular injections, and otoscopy).

**Discussion and Conclusions:** Although darker skinned models are available for certain skills, the university does not stock any. Our BAME students may feel excluded or isolated during teaching of clinical skills because of this. Extensive further study is needed in this area. We need to explore: student perceptions of skin colour on clinical skills models and teaching of skin signs; whether introducing darker skin models has a positive impact on BAME students' feelings of inclusiveness and confidence in performing skills; and whether other medical schools have a more inclusive approach. Awareness must be spread and good practice should be shared. If this leads to increased demand, equipment suppliers will need to increase their range of models available with dark skin.

**Take-home Messages:** Current practice is suggestive of institutional bias. This could be contributing towards the BAME attainment gap.

## #5DD ePosters - Diversity

### 5DD06 (1824)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Evaluation of the present situation of bilingual teaching in eight-year M.D. program in China and a vista for possible reformative schemes

#### AUTHOR(S):

- Hongyu Jin, West China Hospital, Sichuan University, China (Presenter)
- Chi Yuan, West China School of Medicine, Sichuan University, China
- Ping Qing, West China School of Medicine, Sichuan University, China
- Rui Zeng, West China Hospital, Sichuan University, China

#### ABSTRACT

**Background:** Bilingual teaching is a necessary product in the field of professional courses teaching induced directly by a purpose to catch up with international education level during the educational reforms in China. In medical colleges, courses applying this teaching mode is conducted in English mainly, together with a necessary fraction of Chinese to confirm students' comprehension. Our research aims to explore underlying deficiencies of bilingual teaching system from brand-new aspects along with possible reformatory solutions.

**Summary of Work:** This survey reflects the current status of bilingual teaching in eight-year M.D. program from the perspectives of both the teachers and students via questionnaire analysis and face to face interviews. A total of 19 teachers, doctors and 66 students from West China School of Medicine, Sichuan University and other colleges were included.

**Summary of Results:** 60.61% (40/66) of the students surveyed believed that bilingual teaching was necessary for eight-year M.D. program students. However, 50% (20/40) of them attributed the benefits of bilingual teaching to vocabulary improvement only and 30% attributed it to better understanding of medical theory system. From the teachers' prospective, most of them call on increased proportion of English in bilingual teaching and 73.7% (14/19) were not satisfied with the current status of bilingual teaching.

**Discussion and Conclusions:** Compared with a survey conducted in 2011, the proportion of students and teachers who are not satisfied with the bilingual teaching has increased, so as the proportion of students who want diverse types and more bilingual class hours. The survey reflects the contradiction between what students and teachers expect in bilingual courses quality and class hours and the resources school can provide. Meanwhile, another contradiction between English level of students and requirements of bilingual teaching also exists. Therefore, solving problems caused by these two contradictions is the key point to improve the efficiency of bilingual teaching and learning.

**Take-home Messages:** There is a great disparity between reality and expectation of bilingual teaching in eight-year M.D. program in China. The current teaching model satisfies neither teachers nor medical students. It is of great importance to launch out more reformatory policies to comprehensively improve its efficiency.

## #5DD ePosters - Diversity

### 5DD07 (2043)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Public health education for medical students: interaction with multicultural students to learn diversity in health promotion

#### AUTHOR(S):

- Chi-Feng Hsieh, I-Shou University, Taiwan (Presenter)
- Shu-Wen Wan, I-Shou University, Taiwan
- Hsing-yen Hsieh, I-Shou University, Taiwan
- Yun-Ju Chen, I-Shou University, Taiwan

#### ABSTRACT

**Background:** The School of Medicine for International Students of I-Shou University in Taiwan is a newly established four-year M.D. program (taught in English for Bachelors degree) that aims to cultivate passionate and devoted international medical professionals for home countries. For nurturing internationally accredited doctors dedicated to humanitarian service and global healthcare, public health competencies, especially as they relate to the management of chronic disease, will be of increasing importance to the global health-care workforce.

**Summary of Work:** The students need to be able to use their understanding of public health to benefit patients. Nineteen third grade medical students from 10 countries who selected the class Healthcare in developing countries were divided into 4 groups for cases study and health promotion making. For the local and international media play a vital role as the link between health workers and the larger public at present, the designed curriculum considered the interaction with multicultural students to learn diversity from each other in health promotion. Interdisciplinary teaching was performed by teachers with different expertise.

**Summary of Results:** Students mostly responded positively to the class with a significant focus on interacting with the multicultural and multidisciplinary learning. Students realized the significance and barriers of healthcare in developing countries and reflected deeply on their discussion with the multicultural patients. Students learned the successful and challengeable factors in health promotion and policies well during cases study and discussion. Finally, four great health promotion videos for specific health need of home countries were created and shared with public.

**Discussion and Conclusions:** The aim of the class was achieved. Medical students' interaction with multicultural group members may promote the students' understanding and reflection in health care and promotion. To strengthen teaching of public health in undergraduate medical schools, we could : (1) Review the curriculum for public health teaching. (2) Explore and include innovative teaching methods like social media communication. (3) Harmony between national health needs, health programs and public needs for multinational students in medical schools.

**Take-home Messages:** Medical students' interaction with multicultural group members may promote the students' understanding and reflection in health care and promotion.

## #5DD ePosters - Diversity

### 5DDo8 (2201)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Graduates' ratings on acquired gender perspectives and gender medicine-related knowledge and competencies: A comparison between the traditional and new modular curriculum of medicine at Charité Berlin

#### AUTHOR(S):

- Sabine Ludwig, Charité - Universitätsmedizin Berlin, Germany (Presenter)
- Harm Peters, Charité - Universitätsmedizin Berlin, Germany
- Vera Regitz-Zagrosek, Charité - Universitätsmedizin Berlin, Germany
- Ute Seeland, Charité - Universitätsmedizin Berlin, Germany

#### ABSTRACT

**Background:** With the introduction of the new modular curriculum of medicine, gender medicine knowledge and sex/gender differences in the prevention, diagnosis and therapy of diseases were systematically integrated into the curriculum and are part of the assessment. A gender change agent supported the integration. Here, the aim was to evaluate how graduates of both medical programs rate their gender medicine-related knowledge and competencies.

**Summary of Work:** A questionnaire was developed and sent to the first graduates of the new curriculum (N=83) and to 221 graduates of the traditional curriculum in 2017, half a year after their graduation. Students were asked to rate their knowledge in gender medicine and their ability to apply sex and gender-specific skills in different medical domains, e.g. diagnosis, medical decision-making and prevention.

**Summary of Results:** The response rate was 17% for the new curriculum and 15 % for the traditional curriculum. Among the graduates of the new curriculum, 31% rated their knowledge in gender medicine as 'very good' or 'good', whereas 52% of the graduates of the traditional curriculum rated their knowledge as 'poor' or 'very poor'. 50% of the graduates of the traditional curriculum feel capable to apply sex- and gender-specific aspects in the diagnosis of diseases, 47% in medical decision-making and 45% in prevention, compared to 77% of the graduates of the new curriculum for all three medical domains.

**Discussion and Conclusions:** Graduates of the new curriculum rate their knowledge in gender medicine better than those from the traditional curriculum. This translates in higher skills in the application of gender-related aspects in the diagnosis, medical decision-making and disease prevention in their clinical work. Although, the self-ratings of the graduates of the new curriculum are better, the survey shows that gender medicine content should still be reinforced within the curriculum. For this, the GenderMed Database (<http://gendermeddb.charite.de/>) and the eGender Module (<http://egender.charite.de/>) can be used.

**Take-home Messages:** A systematic integration of gender perspectives and gender medicine-related aspects in medical curricula translates in better self-ratings of medical graduates on their ability to apply gender-related aspects in their clinical work.

## #5DD ePosters - Diversity

### 5DD09 (2311)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Applied Virtual Medical Educational System with Cross-Cultural Case Scenarios in Building Better Patient Care - A Pilot Study from Taiwan International Scholarship Program

#### AUTHOR(S):

- Ruyi Huang, E-DA Hospital & I-SHOU University, Taiwan (Presenter)
- San-nan Yang, E-DA Hospital & I-SHOU University, Taiwan
- Hsing-Yen Hsieh, I-Shou University, Taiwan
- Tsuen-Chiuan Tsai, Kaohsiung Medical University, Taiwan
- Chyi-Her Lin, E-DA Hospital & I-SHOU University, Taiwan
- Chi-Wei Lin, E-DA Hospital & I-SHOU University, Taiwan

#### ABSTRACT

**Background:** The paramount importance of cross-cultural education in international medication education is self-evident. However, international students often had the language barrier and were unfamiliar with social norms that impede the development of their patient-centeredness skill. Virtual medical education could take advantage of inventing different colors of skin, language and social settings in the scenarios. Therefore, we aim to investigate if different language scenarios would affect students' learning outcome on whole-person care.

**Summary of Work:** We designed a pilot feasibility study of cross-cultural patient scenarios with both English and Chinese version. 18 groups (each group has 3-5 students) were included. The sessions began with 10 minutes of introduction on whole person approach, followed by role assignments and 90-120 minutes of group discussion. The teachers guided the session with a bio-psycho-social approach. The virtual educational system scores separately in history taking, physical examination, laboratory testing, and final diagnosis. The differences between the two groups of means were compared using independent-tests. The satisfaction questionnaire was applied to discover students feedback.

**Summary of Results:** Overall, the testing of mean scores did not show significant differences between the English group and the Chinese group. Nonetheless, the students reported gaining a better understanding of the needs of patients, being exposed to new languages and issues of cultural competency, and knowing more of the social and behavioral context of patients through the virtual educational system.

**Discussion and Conclusions:** Combining carefully designed case scenarios with virtual education training helps international students to learn skills of whole-person approach despite language differences. Surprisingly, our students could show empathy to specific emotional cues, and obtain prompt diagnosis despite the language barrier in virtual training. The translators and group dynamics were vital in facilitating these learning outcomes. Future effort could be extended to designing diverse age, gender, skin-color scenarios, in training whole person care, and to examine, if it affects the real-cultural OSCE scores.

**Take-home Messages:** Understand the impact of language barrier of the international program could be mitigated through introducing virtual educational training, in which students could cultivate whole-person approach while gaining exposure to diversity early.



## #5DD ePosters - Diversity

### 5DD10 (2821)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Addressing Gaps in the Attitudes and Beliefs of Workplace Sexual Harassment for Nurses and Trainee doctors in a Singaporean Academic Hospital

#### AUTHOR(S):

- Nicholette Goh, National Health Group, Singapore (Presenter)
- Kaushal A. Sanghvi, National Health Group, Singapore
- Sarah Lu, National Health Group, Singapore
- Cheong Wei Huey, National Health Group, Singapore

#### ABSTRACT

**Background:** Sexual harassment (SH) can be defined as any unwelcomed conduct of a sexual nature, which has the effect of creating an intimidating, hostile and degrading environment for the victim. There are few predisposing factors for medical and nursing training unlike other workplaces. The nature of work is often in small groups, requiring physical examination and discussions of marital infidelity, sexual abuse, and similar topics rarely discussed in other professional settings. This may contribute to the breakdown of social barriers that would otherwise preclude unwelcomed sexual overtures.

**Summary of Work:** A literature search was conducted on the topic of workplace SH in a Singapore academic hospital pertaining to nurses and trainee doctors. Relevant medical, empirical and theoretical research literature were identified through a multitude of medical education, social science and media search engines.

**Summary of Results:** The review showed a public opinion campaign done in Singapore in 2008 and this poll showed that half the population had experienced some form of SH. There was also a paper describing that different ethnic groups in Singapore perceived cues to SH differently - Singaporeans use English as a high context language, which complicates the victim's coping response. There were multiple other articles reflecting trends of SH in medical trainees and nurses from other western countries.

**Discussion and Conclusions:** The literature review demonstrated that amongst Singaporean general population, there was a difference of attitude to SH in different ethnicities. It also reflected the public opinion wherein a high percentage of the responders have experienced some form of SH. We also discovered academic articles reflecting high trends of SH in hospitals in developed countries.

**Take-home Messages:** This study is lacking a previous precedent in Singapore. A Singaporean academic hospital is a multi-ethnic and multi-racial workplace. It can be postulated that the attitudes and beliefs towards SH would be different when comparing the general population of Singapore and other developed countries. We will be embarking on a mixed-methods study to further explore SH in our local context.

## #5EE ePosters - Assessment

### 5EE01 (340)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### The Application of Milestones and Entrustable Professional Activity in Standardized Patient Training - the Results of Pilot Study

#### AUTHOR(S):

- Chia-chang Huang, Taipei Veterans General Hospital, Taiwan (Presenter)
- Chin-Chou Huang, Taipei Veterans General Hospital, Taiwan
- Ying-Ying Yang, Taipei Veterans General Hospital, Taiwan
- Ling-Yu Yang, Taipei Veterans General Hospital, Taiwan
- Fa-Yauh Lee, Taipei Veterans General Hospital, Taiwan
- Shou-Yen Kao, Taipei Veterans General Hospital, Taiwan

#### ABSTRACT

**Background:** Standardized patients (SP) can simulate clinical cases. The reliability of Objective Structured Clinical Examination (OSCE) was affected by the many factors. Milestones and entrustable professional activity (EPA) are competency-based training and assessment models. In the standardized patient training, we could also use the concept for their training program.

**Summary of Work:** This project was conducted since Aug 2016. The first year, we developed 4 EPAs, include scenario of history taking, physical examination, communication & patient education, and reports interpretation & disease management. Total 67 SPs, 21 SP trainers and 17 raters were enrolled in the OSCE for pilot study during Feb to May 2017. The response rate of questionnaire was 94.3% (99/105) after pilot study.

**Summary of Results:** The professional content validity of this version were history taking 4.62 (0-5), physical examination 4.70 (0-5), communication & patient education 4.69 (0-5), and reports interpretation & disease management 4.68 (0-5). The mode of SPs performance were seven (1-9) in history taking (level 4), eight (1-9) in physical examination (level 4-5), seven (1-9) in communication & patient education (level 4) and seven (1-9) in reports interpretation & disease management (level 4). The Cronbachs Alpha of students' OSCE scores was 0.571 in the 8 SP stations of Feb. 2017. About the application of milestones and EPAs in SP training, there were 65.7% understood, 17.2% general known and 16.2% unknown among SPs, SP trainers and raters. Seventy seven percent SPs (48/62) indicated that they had achieved the desired goals.

**Discussion and Conclusions:** Through this pilot study, the application of milestones and EPAs could defined the competence of SP in these 4 EPAs with level 4 to 5 after 90 minutes SP training program in OSCE. The concepts and formats of EPA and milestones were so complex that they need time to understand and application. Brief explanation and sufficient time for SP training could be effectively using and promoting milestones and EPAs.

**Take-home Messages:** 1. The concepts and formats of milestones and EPAs could be applied in the SP training as an competency-based training and assessment model. 2. Brief explanation and sufficient SP training could be effectively using and promoting milestones and EPAs.

## #5EE ePosters - Assessment

### 5EE02 (923)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Written Assessment and The Cognition Levels Addressed: A Review of Published Studies in Health Sciences

#### AUTHOR(S):

- Mei Yee Ng, Trinity College Dublin, Ireland (Presenter)
- Richard Deane, Trinity College Dublin, Ireland

#### ABSTRACT

**Background:** Variety of written assessment formats are used in the field of undergraduate and postgraduate medical education namely those requiring knowledge-generation particularly essays and short-answer questions. These have largely been replaced by formats requiring knowledge-recognition particularly multiple-choice questions, single best answer questions, extended-matching questions. Rising concerns exist regarding the impact of widespread and exclusive use of the popular SBAQ format in assessment of medical professionals, specifically, knowledge overestimation and encouragement of surface learning. Computerised grading of SAQs now exist to enhance their feasibility as an assessment format.

**Summary of Work:** This review aimed to find out how cognitive levels are addressed by various types of written assessment format in health sciences and to ascertain the type of written assessment format that can achieve higher-order cognitive levels. Bibliographic databases were used to perform the literature search using a predetermined phrases list. Additional articles were identified from obtained articleless references. Original studies from tertiary-level institutions offering health science programs addressing cognitive level measurement in written assessments were accepted. Full-text were obtained for articles meeting the inclusion criteria. Thematic analysis was done according to type of health science programs and basic science and clinical subjects.

**Summary of Results:** Limited research exist addressing these questions especially for clinical subjects in undergraduate and postgraduate medicine level. Most studies found that using Bloom's taxonomy to develop questions can produce questions aimed at higher-order cognitive levels as most written assessments were targeting lower-order cognitive levels. There is consensus that well-designed knowledge-recognition assessment formats are an effective replacement to test higher-order cognitive levels and could satisfactorily replace or be superior to knowledge-generation assessment formats even though they are difficult to produce and training is required.

**Discussion and Conclusions:** Further evaluation of these research questions is warranted given the significant role played by written assessment in medical education at both undergraduate and postgraduate levels and the limited research that address these questions especially for clinical medicine subjects.

**Take-home Messages:** It is possible to use written assessments to test at higher-order cognitive levels. Questions testing higher-order cognitive levels are difficult to produce and training in question development using Bloom's taxonomy is needed. Collapsing Bloom's taxonomy into 3 categories improves its usage.

## #5EE ePosters - Assessment

### 5EE03 (924)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Developing an Online Structured Professional Reasoning Exercise (e-OSPRES) to test case assessment, diagnosis and Treatment Planning in orthodontics

#### AUTHOR(S):

- Richard Cure, University of Warwick, UK (Presenter)
- Elizabeth Hopkins, University of Warwick, UK

#### ABSTRACT

**Background:** Case assessment, diagnosis and treatment-planning of unseen cases is an integral part of Masters level/specialty training in Orthodontics, assessing the clinical reasoning construct. Historically, hard-copy photographs, radiographs and study-models have been used, for a structured viva between examiners and candidates, testing case-assessment, diagnosis and treatment-planning skills. Oral vivas, even with marking criteria, are open to criticism for potential examiner bias, stringency variation and subjective standards for passing, resulting in poor reliability; they are also time consuming and 'people-dependant.'

**Summary of Work:** Digital artefacts for unseen cases: photographs, radiographs and 3D images of teeth were used. Structuring of the overall assessment included: setting questions and potential answers in a 'drop-down' format, thus alleviating the need for 'free-text' answers, which were generic for a wide-range of clinical cases, and developing protocols for computerised marking. An e-platform which enabled 3D imagery manipulation and compatible across e-platforms was developed, trialled on specialty trainees and then used for a cohort of Masters students.

**Summary of Results:** e-OSPRES provide more structure, clarity, validity and reliability for assessment, facilitate computerised marking, allow greater flexibility in delivering case-based assessments, reduce the examiners required at centres and enhance marking consistency. Candidate performance mirrored performance in other areas of assessment and feedback was favourable on the process.

**Discussion and Conclusions:** Unseen cases assess candidates clinical reasoning and problem-solving capabilities, together with aspects of continuing case-management, traditionally assessed by a viva-voce. An e-format, which assesses the same abilities, yet is able to deliver the same assessment across multiple candidates, without a viva, was required and developed. An e-OSPRES to test case assessment, diagnosis and treatment-planning in orthodontics is a viable alternative to traditional hard copy material and vivas for unseen cases. The model allows delivery of the assessment in any environment with an IT thus facilitating flexibility in both venue and timing of delivery and allow allows any number of candidates to sit the assessment simultaneously. The format has potential for use in the wider dental and medical field.

**Take-home Messages:** e-OSPRES are a viable alternative to traditional vivas IT systems facilitate flexibility in assessment venues Computer marking viable with 'drop-down' format answers Variety of clinical-cases fit into generic format

## #5EE ePosters - Assessment

### 5EE04 (1140)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### More than Just Numbers - Mean ABEM-ITE Percentile Score Helps Predict Resident Success in Final Exam in a Singapore Emergency Medicine Program

#### AUTHOR(S):

- Dong Haur Phua, Tan Tock Seng Hospital, Singapore (Presenter)

#### ABSTRACT

**Background:** All Emergency Medicine (EM) residents in Singapore are required to take the American Board of Emergency Medicine In-Training Examination (ABEM-ITE) once a year. They are subsequently provided with their percentile score in relation to other EM residents who have taken the examination. Upon completion of residency, residents have to successfully complete a final qualification examination (FQE) consisting of written, clinical viva, appraisal of literature, teaching and administration components to receive specialist accreditation as an Emergency Physician with the Specialists Accreditation Board in Singapore. This study aims to examine the relationship between ABEM-ITE percentile scores and success in the FQE in a single nascent EM program.

**Summary of Work:** Yearly ABEM-ITE percentile scores of all residents in our residency program who attempted the FQE were collected. Data from residents who were attempting the FQE for the first time were analysed.

**Summary of Results:** Data from 17 residents who attempted the FQE between 2011 and 2014 were analysed. The individual resident's mean ABEM-ITE percentile score across their residency years was 72.26 (S.D. 7.01) in those who succeeded in the FQE, compared to 67.15 (S.D. 6.37) in those who did not succeed. The last ABEM-ITE percentile score just before the FQE of residents who succeeded was 74.64 (S.D. 7.02), that of those who did not succeed was 72.33 (S.D. 7.39). Independent-samples t-test did not reach statistical significance.

**Discussion and Conclusions:** There was no statistical difference between the mean ABEM-ITE percentile score of residents who succeeded in the FQE and those residents who were unsuccessful, this could be due to small data set. Nevertheless the mean ABEM-ITE percentile scores were markedly different. That of residents who succeeded on at the FQE was distinctly higher than those who did not.

**Take-home Messages:** Performance in ABEM-ITE helps this residency program to identify EM residents who are at risk of not succeeding in the FQE and alert the program to possible need for early educational intervention.



## #5EE ePosters - Assessment

### 5EE05 (1311)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Balint Group as Facilitator Instrument of Medical Internship Students Training

#### AUTHOR(S):

- Edmea Oliva-Costa, Universidade Federal de Sergipe, Brazil (Presenter)
- Rayssa Didou, Universidade Federal de Sergipe, Brazil
- Damaris Calcides, Universidade Federal de Sergipe, Brazil
- Enaldo Melo, Universidade Federal de Sergipe, Brazil

#### ABSTRACT

**Background:** Medical training is quite complex, since factors related to the student's personality, daily dealing with pain and death can contribute to mental health problems not always investigated during the medical undergraduate. Medical students suffer more stress in the last two years of their undergraduate (Medical Internship) and Balint Group (BG) participants develop skills to better protect themselves from these stressors. Objectives: To investigate about the BG repercussion in medical internship students from a Northeastern Brazilian public University.

**Summary of Work:** Qualitative study performed through BG from September/2017 to April/2018. Weekly sessions of BG were held for one hour and a half each, comprising a maximum of 12 students during 10 weeks each group, totaling 68 students. Annotations were made on the field research notebook regarding the most reoccurring testimonies every session. There were also another data collecting tool: a report made by each participant after the last sessions, about the BGs contributions to their own medical education process and mental health.

**Summary of Results:** Feelings of dissatisfaction, fear and insecurity were part of the general picture brought by most students, which ratifies the high levels of stress of the medical school. Recurrent themes during the groups: 1-Difficulty dealing with death; 2-Difficulties in transmitting bad news; 3-Difficulty dealing with patients in mental suffering - fear of madness; 4-Fears about the professional market and the choices of medical residency; 5-Reports of physical, emotional and mental exhaustion; 6-Difficulties about interpersonal relationships within the medical undergraduate.

**Discussion and Conclusions:** The Balint Group promoted a positive reinforcement in the medical education process, due to being one of the rare available spaces during undergraduate studies when students could express their dissatisfactions, wishes and expectations. The participants showed a reduction in the anxiety referred to during the first sessions of BG, which demonstrates to be a good preventive strategy to the deteriorating mental health of undergraduate students during their medical education.

**Take-home Messages:** The results reinforce that BG is a good strategy to enable a less stressful academic experience for medical students. In the present study, BG contributed to decrease psychic distress and increased the students communication skills. Thus BG can be a useful tool in medical training.

## #5EE ePosters - Assessment

### 5EE06 (1431)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### The role of question banks and the implications for medical schools: a systematic review

#### AUTHOR(S):

- **Afra Jiwa, King's College London, UK (Presenter)**
- Edward Fenby, Kings College London, UK
- Eugene Ace McDermott, Kings College London, UK
- Mariam Koronfel, Kings College London, UK

#### ABSTRACT

**Background:** Recently, medical schools in the UK have chosen multiple choice question (MCQ) examinations to test knowledge as recommended by the General Medical Council (GMC). In response, the Medical Schools Council Assessment Alliance (MSCAA) established a question-bank in 2013 supplying universities with questions for their examinations. A number of private companies have developed question-banks, to familiarise users with MCQs and to encourage spaced repetition. Three key providers supply this at costs ranging from £25-63 per annum. Though the utility of question-banks is recognised, this work seeks to better understand the role of question-banks and address the implications for medical schools.

**Summary of Work:** Comprehensive searches of relevant databases were completed in January 2019 using the following keywords and associated terms; MCQ, Single best answer (SBA), answer-bank and question-bank. The reference lists were manually searched for relevant studies. Of 192 articles, 17 were deemed relevant and included for analysis.

**Summary of Results:** Several studies confirmed the correlation between use of question-banks and test scores but identified differences in effectiveness poststratification. Two studies showed increased effectiveness in low performing students. Three studies highlighted the benefit of question-banks which were adapted to course and assessment format, alongside cultural and racial differences; specifically, those underrepresented in questions found less benefit from the resource. Two studies reviewed student-authored question-banks. One deemed a pay-by-play model effective - students could access the question-bank if they provided questions. In both models, question writing frequency correlated with summative performance and results suggested student-authored questions were of sufficient quality, despite concerns. Participants from several studies suggested schools should implement a spaced repetition tool or similar.

**Discussion and Conclusions:** Low achieving students would benefit most from curriculum-specific question-banks which account for cultural differences. As generic question-banks cannot provide this, medical schools should consider offering students access to contextualised question-banks. Discrepancies in income limit equal access to question-banks and provide further justification for internal question-banks.

**Take-home Messages:** Universities should consider implementing context-specific question-banks to enable fair access to resources for students. Student-authored question-banks may be a suitable alternative; further research is necessary to consolidate findings.

## #5EE ePosters - Assessment

### 5EE07 (2476)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### A tool to identify and support medical students who are high achievers in basic science written assessments but lower performers in OSCEs

#### AUTHOR(S):

- Alexia Papageorgiou, University of Nicosia Medical School, Cyprus (Presenter)
- Nicoletta Nicolaou, University of Nicosia Medical School, Cyprus
- Constantina Constantinou, University of Nicosia Medical School, Cyprus
- Ourania Kolokotroni, University of Nicosia Medical School, Cyprus
- Stelios Georgiades, University of Nicosia Medical School, Cyprus
- Adonis Ioannides, University of Nicosia Medical School, Cyprus

#### ABSTRACT

**Background:** Clinical and communication skills are part of the curriculum of medical degrees and are commonly assessed by OSCEs. Performance in OSCEs requires the application of skills that are different to those applied in written assessments for the basic sciences. This work aims at providing a tool (a) to identify students that perform well in the basic sciences but not in their OSCEs and (b) to be used by the clinical and communication skills team to identify the causes behind low performance and provide additional support.

**Summary of Work:** 101 medical students (from years 2 and 3 of the MD programme) were included in the study. To investigate the association between performance in basic sciences and OSCE performance, the students were ranked based on their mean performance in the basic sciences and their performance in the OSCE in the corresponding semester. A scatterplot was created (OSCE rank on the y-axis, basic science rank on the x-axis) and the 25th and 75th rank percentiles were estimated.

**Summary of Results:** Overall, there was a significant correlation between mean performance in the basic sciences and OSCE performance. However, the scatterplot allowed easy identification of students who performed well in the basic sciences (i.e. basic science rank within the 25th percentile) but did not perform well in their OSCE (i.e. OSCE rank within the 75th percentile).

**Discussion and Conclusions:** The proposed method could be used to provide feedback to students with regards to their ranking in the basic sciences and OSCEs and alert students performing well in their basic sciences to the need for working on their communication and clinical skills. In addition, the clinical and communication skills team could offer appropriate support mechanisms based on the underlying cause behind low performance in OSCEs, such as anxiety and reticence, rather than lack of basic scientific understanding.

**Take-home Messages:** We propose a method for identifying students who, despite their high performance in basic sciences, may require additional help with their clinical and communication skills. This tool could also be used for longitudinal monitoring of individual student performance and assessing the effectiveness of the support mechanisms.

## #5EE ePosters - Assessment

### 5EE08 (2548)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

## Medical students' peer to peer assessment reliability in clinical case simulations training

### AUTHOR(S):

- Laura Malakauskienė, Lithuanian University of Health Sciences, Lithuania (Presenter)
- Jonas Ulevicius, Lithuanian University of Health Sciences, Lithuania
- Brigita Mazenyte, Lithuanian University of Health Sciences, Lithuania
- Ruta Jolanta Nadisauskienė, Lithuanian University of Health Sciences, Lithuania
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### ABSTRACT

**Background:** Progressive teaching trends strive to combine traditional learning techniques and modern technologies, either focused on student centered approach. Students self-learning, peer-to-peer learning and assessment, as well as adequate feedback by peer and teacher support successful learning. Aim of the study was to evaluate the reliability of undergraduate medical student's peer-to-peer assessment of clinical case simulations in the module of Obstetrics and Gynecology.

**Summary of Work:** Subjects of the study were undergraduate fifth-year students of the Lithuanian University of Health Sciences (LSMU) Medical Academy who were studying Obstetrics and Gynecology module during the period from 2017 September to 2018 November. Students were using HybridLab® training technique for improvement of gynecological, obstetrical and neonate patient investigation skills. A retrospective analysis was done, comparing peer-to-peer student's and teacher's evaluation of clinical case simulation performance. Simulations were evaluated using a standardized checklist, which afterwards was converted to a score from 0 to 100. Scores were compared using Wilcoxon signed rank test and results are given in the following manner: median (min-max; mean).

**Summary of Results:** During the selected period 466 students have participated in 1668 clinical case simulations. While comparing peer-to-peer and teachers' evaluations, 55,5% (n=926) of simulations were evaluated identically, in 36,5% (n=608) of cases evaluation scores, given by peers were higher and in 8,0% (n=133) were lower, comparing to teachers' evaluations. Median scores given by peers and teachers were 100 (39-100; 98,6) and 100 (26-100; 95,2) respectively (p<0.001). In 27,8% (n=206) of cases with unequal evaluations, score difference was more than 10.

**Discussion and Conclusions:** Almost half of student's peer-to-peer evaluations diverged from teachers' evaluations, which were considered as a standard. Moreover, the difference was significant. This data raises doubts about the reliability of students' peer-to-peer assessment of clinical case simulations. Incorrect assessment can fail expected and adequate feedback, as well as successful learning.

**Take-home Messages:** Students' peer-to-peer evaluation is an important part of medical training and teamwork skills. However the use of peer-to-peer assessments for professional development in healthcare professional curriculum shouldn't be a key standard.

## #5EE ePosters - Assessment

### 5EE09 (2784)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Exploring and Analyzing Clinical Examination and Lateral Thinking (EXCEL) Program applies script theory as the pedagogue in enhancing learning for early year clinical students

#### AUTHOR(S):

- Zong Jie Koh, National University Hospital Singapore, Singapore (Presenter)
- Choon Seng Chong, National University Hospital Singapore
- Benjamin Goh, National University Hospital Singapore
- Celene Ng, National University Hospital Singapore

#### ABSTRACT

**Background:** Medical students transitioning into their clinical years struggle in developing effective clinical approaches based on theoretical knowledge. Evidence supports that experienced clinicians are distinguished by the organization of their knowledge rather than their abilities in problem-solving or memorization. This process of clinical reasoning has been attributed to the use of 'illness scripts' (IS) which are refined through practice and experience. The aim of the EXCEL program is to mentor early clinical year students through the stepwise process of developing their own IS in order to establish the foundation for their clinical years.

**Summary of Work:** Between January - December 2018, third-year students from Yong Loo Lin School of Medicine, Singapore, were enrolled into the EXCEL program. In groups, they participated in a half-day workshop with simulated patients. Students took turns in history taking (HT) and physical examination (PE). Discussion with tutors focused on the following in order to establish differential diagnoses: a) Applying knowledge nodes in evaluating findings b) Forming neural networks for correlation c) Encapsulating thoughts into diagnoses d) Developing an IS that can be reproduced and refined Pre and post-course surveys were conducted which were to be filled after an actual patient encounter. Survey questions were focused on evaluating participant perceived comfort, efficiency and dynamicity in HT and PE and were graded on a Likert scale of 1-5. Score percentages were analyzed and reported.

**Summary of Results:** A total of 117 participants were enrolled. As compared to before the workshop, a greater proportion of participants were more comfortable with HT (74.3% vs 57.3%) and PE (63.6% vs 41.0%). A greater proportion were able to complete HT (62.2% vs 40.9%) and PE (62.5% vs 42.1%) in the stipulated time. A greater proportion were constantly thinking about possible differentials during their HT (56.2% vs 46.5%) and PE (50.0% vs 36.0%). 47.7% of participants after the course felt that they were able to determine the most likely diagnosis as compared to 29.2% before the course.

**Discussion and Conclusions:** Structured workshops utilizing IS guides learning for clinical year students.

**Take-home Messages:** Recognize and use IS to establish foundational skills for clinical year students.



## #5EE ePosters - Assessment

### 5EE10 (2984)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Evaluating Student Competence in the Shared Discovery Curriculum

#### AUTHOR(S):

- Robert Malinowski, Michigan State University College of Human Medicine, USA (Presenter)

#### ABSTRACT

**Background:** The College of Human Medicine launched the new competency-based Shared Discovery Curriculum in 2016. Basic and clinical sciences are integrated throughout the semester and content is presented by 'chief complaint and concern'. A custom platform, Just in Time Medicine (JIT), was developed to both deliver instructional content and track assessment data. JIT collects, organizes and displays the assessments that a student completes each semester according to the SCRIPT taxonomy. This includes standardized progress exams, peer evaluations, self-reflections and individualized learning plans. The Student Competence Committee (SCC) serves as a 'checkpoint' for students to progress through the curriculum. At the end of each semester, every SDC student is reviewed. The SCC utilizes the JIT platform exclusively to review student assessment data. In addition to the SCRIPT taxonomy, attendance data and qualitative comments for each student are also reviewed.

**Summary of Work:** To evaluate the effectiveness of the JIT system, online surveys were administered and focus groups were conducted with SCC members for the researcher's Lilly Teaching Fellowship project (<https://aan.msu.edu/teaching-learning/lilly-fellowship/>). The main areas of discussion included: Process: How are members using JIT? What improvements can be made? Confidence: How confident are the committee members in their ability to make summative judgments? Holism: Does JIT give a multi-dimensional view of each student? Training: How can physician-faculty improve their appraisal of student competence?

**Summary of Results:** Overall, the participants were very satisfied and felt that JIT gave them an accurate illustration of each student's performance. All felt that JIT had improved over time, both in functionality and ease of use. There was a high level of trust in most of the data presented in JIT. Attendance data was viewed as inaccurate, due to the varying methods by which it was collected and measured.

**Discussion and Conclusions:** JIT has become a vital system for the SDC. Most SCC participants are very satisfied and are able to complete their evaluations quickly and accurately. Most are very pleased with the responsiveness of the Assessment and Programming teams and the continuous improvement of processes.

**Take-home Messages:** JIT is a robust, evolving platform that has become an essential tool for the evaluation of students in a competency-based medical curriculum.

## #5EE ePosters - Assessment

### 5EE11 (3327)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Baseline knowledge assessments are an effective tool for retrieval practice in student pharmacists

#### AUTHOR(S):

- Sarah Anderson, University of North Carolina at Chapel Hill Eshelman School of Pharmacy, USA (Presenter)
- Amanda Corbett, University of North Carolina at Chapel Hill Eshelman School of Pharmacy, USA
- Kathryn Morbitzer, University of North Carolina at Chapel Hill Eshelman School of Pharmacy, USA
- Denise Rhoney, University of North Carolina at Chapel Hill Eshelman School of Pharmacy, USA

#### ABSTRACT

**Background:** Retrieval practice is a learning strategy where recalling information from long-term memory enhances learning by placing information in the working memory. Study techniques that incorporate retrieval practice are more effective for long-term memory retention. Additionally, metacognition and self-regulated learning aim to make students self-aware and allow them to plan and implement strategies to improve upon their knowledge. The Accreditation Council for Pharmacy Education (ACPE) 2016 Standards emphasize learning pedagogy and knowledge acquisition prior to practice experiences, but little data exists regarding baseline testing of student pharmacists. The objective of this study is to assess the impact of retrieval practice on students' knowledge acquisition in integrated pharmacotherapy courses.

**Summary of Work:** This is a retrospective review of student baseline knowledge assessments, given at course commencement, from January 2017-December 2018. Baseline assessments were administered on ExamSoft® to second- and third-year student pharmacists participating in a sequence of three integrated pharmacotherapy courses. Items were tagged to key knowledge domains from the accreditation standards [Biomedical Sciences (BS), Clinical Sciences (CS), Pharmaceutical Sciences (PS)] and Bloom's taxonomy [Knowledge/Comprehension (KC), Application/Analysis (AA), Synthesis/Evaluation (SE)]. Students are provided individualized knowledge gap reports, as identified by the assessment in ExamSoft®, which can be used as a mechanism for retrieval practice. Microsoft Excel and SPSS Statistics Software (IBM) was used for any statistical analysis. Descriptive statistics was utilized to describe the data.

**Summary of Results:** Two cohorts of students participated in the study. The first cohort of students (n=144; 3 baseline assessment) showed increased retention across the baseline assessments: CS (+13.01%), PS (+8.26%), KC(+2.51%), AA (+8.98%), SE (+12.52%), with the exception of BS (-27.44%). The second cohort of students (n=142, 2 baseline assessments) showed increased retention: BS (+14.93%), CS (+0.65%), PS (+3.78%), KC(+4.8%), AA (+4.03%), SE (+0.05%).

**Discussion and Conclusions:** Overall, students showed increased retention. Providing students with a gap analysis allows students to incorporate retrieval practice as the series progresses. Additionally, this provides course developers opportunities to increase moments of retrieval practice as indicated in the gap analyses.

**Take-home Messages:** Baseline assessments provide the opportunity for students to recognize knowledge gaps and enforces metacognition and self-regulated learning.

## #5EE ePosters - Assessment

### 5EE12 (3464)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Fifteen Seconds Matters - Evaluate Under Graduated Year Medical Students' Ability in Echocardiography

#### AUTHOR(S):

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#### ABSTRACT

**Background:** As medical device advanced, sonography becomes an essential tool in post-graduated-year residents and medical physicians worldwide. However, the ability to perform echocardiography is still unknown in under-graduate-year (UGY) in Taiwan.

**Summary of Work:** We organized a workshop combined with flipped classroom and manipulation. Each student was asked to read the materials before participation. Pre-curriculum written test evaluates the ability of 'know how' in echocardiography. Before pre-training hands-on test, we arbitrarily separated the students into two groups. In group A, each of them had two periods of 30 seconds to perform parasternal long axis view and apical four chamber view. Meanwhile, in group B, each of them only had two 15-second to operate the same views. Then, both groups received 25 minutes hands-on operating by help of faculties. Similarly, post-training hands-on test was conducted in group A and B (show how). Finally, post-curriculum written tests were provided.

**Summary of Results:** There were 23 UGY medical students (male=16) in group A and 21 UGY (male=14) in group B. Pre-curriculum written test was  $49.0 \pm 35.5$  in group A and  $43.1 \pm 20.3$  in group B ( $p=NS$ ). Pre-training hands-on test showed  $1.3 \pm 0.5$  in group A and  $1.2 \pm 0.4$  in group B (by Likert scale, excellent (5), very good (4), good (3), fair (2), poor (1))( $p=NS$ ). The records of pre-curriculum written test and pre-training hands-on test were no significant difference in both group. Post-training hands-on test reported  $2.2 \pm 0.7$  in group A and  $1.8 \pm 0.6$  in group B ( $p=0.03$ ). Post-training written test were  $87.0 \pm 15.3$  in group A and  $91.1 \pm 7.9$  in group B ( $p=NS$ ). Post-training hands-on test were significant improved comparing with pre-training test in both groups (both  $p<0.001$ ). However, the group A got higher score than the group B in post-training hands-on test.

**Discussion and Conclusions:** Before training, UGY medical students showed poor ability in manipulating echocardiography, but got fair degree after training. However, a 15-second period made different performance in post-training hands-on test between group A and group B. We suggested there should be fulfilled with enough time for UGY medical students in post-training hands-on test.

**Take-home Messages:** The workshop facilitates UGYs performance in echocardiography.

## #5FF - ePosters - Teamwork / Interprofessional Education

### 5FF01 (274)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Using simulation to practise inter- and intraprofessional communication skills in undergraduate medical education

#### AUTHOR(S):

- Mascha Berk, UMC Utrecht, the Netherlands (Presenter)
- Marielle Jambroes, UMC Utrecht, the Netherlands
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#### ABSTRACT

**Background:** Rising numbers of patients with multi-morbidity and substitution of hospital care to primary care underline the importance of inter- and intraprofessional communication for high quality and patient centred care. However, mastering these skills is insufficiently addressed in undergraduate medical education.

**Summary of Work:** As part of the new curriculum, a four-day simulation was developed for all fifth year medical students to practice inter- and intraprofessional communication skills. In different rotating roles; clinician, general practitioner or public health physician students run an outpatient clinic. Every ten minutes a written patient casus appears online. In order to solve the casus students have to perform different communication tasks; writing referral letters, consulting other physicians, calling patients to explain results or composing discharge letters. Physicians and standardized patients participate in the simulation and provide the students with feedback. In the afternoon students prepare and conduct a multi-disciplinary meeting (MDM) within the physician role they had in the morning. To assess students' learning feedback and self-reflection are used.

**Summary of Results:** In 2017 the simulation was conducted 8 times with an average of 27 students per run. The overall evaluation score for the outpatient clinic was 4.3 and for the MDM 3.3 on a 5 point scale. Students highly appreciate the safe environment and the authenticity of the communication tasks and they feel better prepared to perform these tasks during their clerkships. Physicians, standardized patients and teachers like to contribute to the simulation.

**Discussion and Conclusions:** In response to patients' needs, patient centered and integrated healthcare practice is required. With increasing professional and societal emphasis on patient centered care and safety, simulation to train inter- and intraprofessional communication and collaboration skills can be a valuable addition to every curriculum.

**Take-home Messages:** Simulation to train inter- and intraprofessional communication skills is a valuable addition to medical curricula.

## #5FF - ePosters - Teamwork / Interprofessional Education

### 5FF02 (362)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Effective Interprofessional Education as a Strategy for Quality Improvement

#### AUTHOR(S):

- Yan Qin, Singhealth, Singapore (Presenter)
- Josephine Zhenmei Wang, Singapore General Hospital, Singapore
- Joy Meiling Tan, Singapore General Hospital, Singapore
- Lok Lin Wong, Singapore General Hospital, Singapore
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- Yucai Yee, Singhealth, Singapore

#### ABSTRACT

**Background:** With the ageing population and chronic disease burden, allied health professional such as physiotherapist has been playing an important and integral role in holistic patient care. However, inappropriate referral to physiotherapy is not uncommon in our institution. Internal Medicine department used to hold a one-hour allied health educational session once a year but the attendance by junior doctors had been suboptimal. We postulate that effective interprofessional education would reduce such inappropriate referral.

**Summary of Work:** There were three phases of this interprofessional education program. In phase 1, Internal Medicine doctors joined an interactive education session with a group of physiotherapists. In phase 2, a workgroup consists of both doctors and physiotherapists was formed to seek area of improvement through collaboration. Reducing inappropriate referral to physiotherapy was identified as a quality improvement project. After multiple discussions of both parties and cause analysis, a three-question tick box tool to aid the referral to physiotherapy was created. In phase 3, quarterly 10-minute briefing to Internal Medicine doctors by the workgroup members has been conducted to cater the learning needs due to frequent rotation of junior doctors. Posters of the three-question tick box were put up in the ward subsequently.

**Summary of Results:** A seven-month data collection prior to phase 3 interventions showed average 26 inappropriate referrals received each month. Given that the physiotherapist takes about 15 minutes to screen each case, there was a loss of 6.5 hours therapy time each month to screen patients who did not require physiotherapy services. After introduction of the three-question tick box tool and quarterly briefing, continuous monthly data monitoring showed average 2.5 inappropriate referrals received per month. Our team was able to reduce the inappropriate referrals to physiotherapy services from Internal Medicine doctors by 90.4% (from 26 to 2.5 inappropriate referrals received per month), which would have saved 5.9 hours therapy time per month.

**Discussion and Conclusions:** Compared with the previous once yearly one-hour allied health educational session, we found that the current quarterly briefing with concise and customized content is more effective to change doctors' practice behaviour.

**Take-home Messages:** Effective and customized interprofessional education can be a useful strategy to boost quality improvement.



## #5FF - ePosters - Teamwork / Interprofessional Education

### 5FF03 (417)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Using simulation to train interprofessional collaboration for healthcare students in primary care

#### AUTHOR(S):

- Lene Lunde, University of Oslo, Norway (Presenter)
- Anne Moen, University of Oslo, Norway
- Rune Bruhn Jakobsen, University of Oslo, Norway
- Elin Olaug Rosvold, University of Oslo, Norway

#### ABSTRACT

**Background:** Healthcare professionals must work in interprofessional teams in primary care to meet new, more complex challenges in patient care. Increased complexity in healthcare has led to the introduction of interprofessional collaboration in healthcare curricula. Simulation-based learning is a powerful facilitator for active and safe learning and simulation studies show improvement of the delivery of care in acute clinical situations, but we have found few studies on primary healthcare simulation.

**Summary of Work:** The purpose of the PhD-project is to study simulation as a strategy for training students in typical clinical situations in primary healthcare. We will prepare scenarios where students solve practical, semi-acute, primary healthcare situations to explore the students' experience of participating in simulation, assessments of the scenarios, and experiences with simulation as a method for active learning and team collaboration. We recruited five healthcare students (medical students, and master and bachelor students in nursing) to pilot test the first two scenarios in December 2018. We elicited their assessments of the learning experience, and specifically explored how to improve the scenarios before data collection starts. Interprofessional collaboration between health professionals are crucial for patient safety and optimal results. We will present preliminary results from the simulation in April 2019 at AMEE.

**Summary of Results:** The pilot test supported that the scenarios were relevant and highly useful for the participants' learning. Especially, the fidelity of the scenarios with realistic and recognisable patient situations from primary care enhanced their experience. The students suggested minor adjustments to strengthen the scenarios' potential for learning interprofessional teamwork.

**Discussion and Conclusions:** Based on feedback from the pilot test, we adjusted the scenarios. Data collection will take place in April 2019 with approximately 30 participants conducting simulation and focus group interviews. The project will provide research-based knowledge about simulation as a strategy for teaching and active learning that prepare students for the increasing complexity they will meet in primary care.

**Take-home Messages:** Using simulation to train interprofessional collaboration for healthcare students in primary care has the potential to improve clinical practice and prepare students for the increasing complexity they will meet in primary care.

## #5FF - ePosters - Teamwork / Interprofessional Education

### 5FF04 (880)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Investigation of changes of empathy levels in clinical psychology and medical students of Japanese Medical School before and after interprofessional education

#### AUTHOR(S):

- Hiroki Okada, Department of Medical Education, Faculty of Medicine, Kagawa University, Japan (Presenter)
- Shuji Bandoh, Department of Medical Education, Faculty of Medicine, Kagawa University, Japan
- Naohiro Kurotaki, Department of Clinical Psychology, Faculty of Medicine, Kagawa University, Japan
- Kenji Kanbara, Department of Clinical Psychology, Faculty of Medicine, Kagawa University, Japan
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- Junko Kawahito, Department of Clinical Psychology, Faculty of Medicine, Kagawa University, Japan

#### ABSTRACT

**Background:** In 2018, Kagawa University established the Department of Clinical Psychology in the Faculty of Medicine. We conducted an interprofessional education (IPE) for medical students (MS) and clinical psychology students (PS) immediately after their admission and then evaluated the difference of empathy between MS and PS before and after IPE.

**Summary of Work:** IPE program includes outline of medicine, group works concerning about medical ethics and privacy protection and experiences in medical institutes and elderly care facilities. Jefferson Scale of Empathy-medical students (JES-S) (Japanese version: Kataoka 2009) was used. Participants included 87 MS (47 men and 40 women) and 16 PS (5 men and 11 women).

**Summary of Results:** The JSE score of MS was 113.2 before IPE and 111.5 after IPE. The JSE score of PS was 111.1 before IPE and 111.1 after IPE. There was no significant difference in JSE scores between MS and PS. But among 10 perspective taking tasks, PS have found a significant decrease in items 13 (non-verbal cues and body language in understanding patients), 16 (understanding emotion in patients-clinician relationship) and 20 (empathy as a therapeutic factor), where MS have shown a decrease in item 16. MS have shown a significant decrease in item 11 (patient-physician emotional ties in medical treatment) of compassionate care, whereas PS had no differences in any of the items. In contrast, PS have found an increase in items 3 (viewing patients' perspective), 5 (sense of humor and clinical outcomes) and 10 (understanding of therapeutic relationship to patients), where MS have found an increase only item 5.

**Discussion and Conclusions:** The decrease in some elements of perspective taking by PS indicates a lack of understanding of patient's feelings. PS felt much interest in seeing the patients with medical illness and learned more about medical problems than psychological problems after IPE. Because the therapeutic outcomes are stronger in the medical treatment than psychological treatment. Moreover, PS likely appreciate the importance of deeper understanding of medicine than clinical psychology.

**Take-home Messages:** Early introduction of medical teaching to PS reduces likelihood of some levels of empathy.

## #5FF - ePosters - Teamwork / Interprofessional Education

5FF05 (888)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Introduction of Clinical Exchange Training for Medical and Dental Students

#### AUTHOR(S):

- **Mina Nakagawa, Institute of Education, Tokyo Medical and Dental University, Japan (Presenter)**
- Kanako Noritake, Institution of Education, Japan
- Kumiko Yamaguchi, Institution of Education, TMDU, Japan
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- Keiichi Akita, Institution of Education, TMDU, Japan

#### ABSTRACT

**Background:** In aging societies, tighter coordination and collaboration between medical and dental professionals are needed to deal with the number of comorbid systemic condition which endanger the oral health. Tokyo Medical and Dental University (TMDU) started a new undergraduate medical and dental integrated curriculum in 2012 to improve collaboration between medical and dental professionals.

**Summary of Work:** Under our integrated curriculum, students of both schools learn together for common competencies such as relevant basic and clinical sciences, and social medicine. To develop and add a new component in clinical years to the integrated curriculum, we interviewed faculty staff of two schools in an attempt to accurately grasp barriers for coordination and collaboration between medical and dental professionals.

**Summary of Results:** Interview revealed that the lack of interest and insufficient understanding of the practice of other profession were identified as barriers. In order to overcome this, we developed and added a new component, the Clinical Exchange Training (CET), to the integrated curriculum which brings students of both schools during their clinical years to attend rounds in Palliative Care Unit and Outpatient Dental Clinics and teach each other after rounds with the help of supervising faculty staff.

**Discussion and Conclusions:** Analysis of the feedback from students who participated in CET revealed that CET was effective in helping students understand the roles and responsibilities of both professions, broadening ones perspectives in patient care, and cultivating self-affirmation. The addition of CET to our medical and dental integrated curriculum may help students acquire the needed competencies and better prepare students for future interprofessional work.

**Take-home Messages:** Recent advancements in medical and dental sciences have blurred the boundaries between medical and dental care. Undergraduate medical and dental integrated curriculum may better prepare medical and dental students for coordination and collaboration which are needed in aging societies.

## #5FF - ePosters - Teamwork / Interprofessional Education

### 5FF06 (1507)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Evaluation of Team-Based Learning in Respiratory System II Course in Two Academic Years

#### AUTHOR(S):

- Napat Chatteeraphat, Faculty of Medicine, Chulalongkorn University, Thailand (Presenter)
- Ornjira Trithiphen, Faculty of Medicine, Chulalongkorn University, Thailand
- Danai Wangsaturaka, Faculty of Medicine, Chulalongkorn University, Thailand

#### ABSTRACT

**Background:** Team-based learning (TBL) has been widely used in medical education. The Faculty of Medicine, Chulalongkorn University piloted TBL in Year 3 pharmacology course in 2015. Since then, more courses have utilised TBL. This study aims to evaluate students' perception towards TBL in Respiratory System II courses in 2017 and 2018 academic year.

**Summary of Work:** Twenty-one items, specifically designed to evaluate various aspects of TBL including students' learning behaviour in TBL, were included in the course evaluation questionnaires. Comparison between opinions of students with high GPAX (3.75 - 4.00) and low GPAX (< 3.00) was performed using either Pearson Chi-square or Fisher's exact test.

**Summary of Results:** The response rate was 86% (522/607). The overall satisfaction towards TBL was 3.7/5. Most respondents were satisfied with the number of students per group (91%); self-study time for advance assignment (81%); time for iRAT (87%); time for clarification and appeal (80%); and the mix of students with various GPAX in each group (80%). However, only 46% enjoyed TBL and only 33% preferred more TBL in other courses. The characteristics of TBL which students liked most were: learning as a team (41%) and the use of test in learning (29%). There was statistically significant difference between students with high and low GPAX ( $p = .028$ ) in their most preferred characteristics of TBL. Of the 5 steps of TBL, 65% felt they learned most from advance assignment. Students with high GPAX perceived this statistically significantly differently from students with low GPAX ( $p = .003$ ).

**Discussion and Conclusions:** Despite its advantage in promoting active learning, adult learning and collaborative learning, student satisfaction towards team-based learning was not as great as expected. This could be due to: unfamiliarity/adjustment to a new teaching method; inadequate preparation of students, teachers and educational resources; a wide range of students' learning styles and expectation; or an underlying problem of overcrowded content in this course. Student consultation is essential to improve TBL.

**Take-home Messages:** The success of implementing an innovative teaching method depends not only on an innovation itself, but also teachers and students in your own context.

## #5FF - ePosters - Teamwork / Interprofessional Education

5FF07 (1584)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Does Multi-Disciplinary Debriefing Improve Clinical Knowledge, Human Factors and Confidence in Interprofessional Simulation?

#### AUTHOR(S):

- Ryan Phillips, Royal Cornwall Hospitals Trust, UK (Presenter)
- Sanjeev Sahota, Royal Cornwall Hospitals Trust, UK
- Johannes Driessen, Royal Cornwall Hospitals Trust, UK

#### ABSTRACT

**Background:** Simulation is known to improve technical knowledge and performance. Currently, no research suggests that improvement in clinical knowledge or human factors is dependent on who facilitates debriefing. We conducted a pilot study to investigate whether debriefing with nurses and doctors, compared with doctors alone, improved students' knowledge and confidence in clinical simulation of acutely unwell patients.

**Summary of Work:** A faculty of doctors and nurses facilitated a six-session course for nursing and medical students (n=10) focussing on the 'Airway-to-Exposure' approach when assessing deteriorating patients. Sessions involved brief teaching sessions, followed by high-fidelity simulated scenarios with debriefs. Students were split into two cohorts: one with debriefing facilitated by nurses and doctors (multidisciplinary (MDT) group), and the other group debriefed by only doctors (non-MDT group). Data was collected using a multiple-choice knowledge test and a questionnaire using Likert scales to rate human factors such as communication and prioritisation. These were administered before and after the course with scores analysed using paired t-tests.

**Summary of Results:** 100% of participants rated the course 5/5 for being challenging, relevant and would recommend to their peers. On the human factors questionnaire, there was a mean increase of 40% ( $p = 0.0043$ ) across all domains in both cohorts. When questions were categorised into themes, understanding and confidence showed the greatest improvement, 56% ( $p < 0.001$ ) and 55% ( $p = 0.04$ ). Both MDT and non-MDT cohorts improved knowledge scores (23% ( $p = 0.039$ ) and 17% ( $p = 0.15$ ), respectively).

**Discussion and Conclusions:** Interprofessional simulation is a valuable teaching modality, whereby clinical concepts can be reinforced by scaffolding, and effective communication between disciplines can be learned safely. Our study demonstrated that simulation in interprofessional education is a useful learning experience, improving scores across knowledge, non-technical skills and confidence. Interestingly, the data trended toward an increase in knowledge in the multi-disciplinary debrief group. Further research using a larger sample size will be required to investigate this further.

**Take-home Messages:** Simulation improved all participants' knowledge, non-technical skills and confidence. MDT debriefing trended toward improvement over non-MDT debriefing however further study using a larger sample will be required to investigate this further.



## #5FF - ePosters - Teamwork / Interprofessional Education

5FF08 (1673)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Improving patient safety by integrating team resource management program into staff training: 9-year experience in a tertiary hospital

#### AUTHOR(S):

- Hsiang-Chun Tsai, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taiwan (Presenter)
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#### ABSTRACT

**Background:** Team approach is necessary to facilitate multidisciplinary cooperation in the hospital. It can effectively improve medical quality and enhance patient safety by decreasing medical errors which stem mostly from poor communication.

**Summary of Work:** In 2009, we adopted TRM (team resource management) after benchmarking other institutes, and launched workshops in our hospital in 2010. From 2011 to 2018, we conducted 55 courses and workshops with 4,342 participations from 11 specialties, including physicians, nurses, pharmacists, medical technologists, physical therapists, radiologists, dieticians, ect. The education program focused on subgroup discussion and case presentation in addition to lecture by instructors. A total of 17 teaching video demonstrations was edited from medical errors, near-miss/sentinel incidents, or from safety-related news events. Overall, the average satisfaction score was 90%.

**Summary of Results:** Since 2014, regular audit on how TRM was implemented in 25 units or clinical specialties was performed every 3 months. The annual completion rate for 55 indicators improved from 62% to 75% in 2017. In the national Survey on Patient Safety Culture, the positivity rate of 'teamwork within units' improved from 46.0% (before TRM implementation) to 58.9% in 2018. The dimension of 'safety climate' also improved from 41.4% to 55.3%.

**Discussion and Conclusions:** The results showed that implementation of TRM program is a very promising method to enhance teamwork culture and patient safety across all fields in our hospital. During the 9-year intervention period, our staff were successfully provided with higher perception of patient safety and more useful skills in teamwork that can be applied to their daily practice. Improving teamwork and communication through TRM training helps clinical units and healthcare professionals solve complex problems cooperatively and systematically.

**Take-home Messages:** The climate of safety and perception of teamwork culture are greatly improved by continuous TRM training, practice, and auditing.

## #5FF - ePosters - Teamwork / Interprofessional Education

5FF09 (1951)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### “Two is a crowd” - a qualitative analysis of dyad training in clinical clerkships

#### AUTHOR(S):

- Laerke Marijke Noerhok, CAMES Rigshospitalet, Denmark (Presenter)
- Anne Mette Morcke, CAMES Rigshospitalet, Denmark
- Martin G. Tolsgaard, CAMES Rigshospitalet, Denmark

#### ABSTRACT

**Background:** Globally, medical schools are responding to the need for more doctors by admitting a greater number of students. Consequently, clinical departments receive an increasing number of clerkship students resulting in numerous calls for more cost-effective methods of training than the traditional one-to-one apprenticeship model. Collaborative learning has shown positive results in the simulated setting and could be a solution to the volume problem. However, what works in the controlled simulated setting may not work in the clinical setting, where various stakeholders' support is key to success.

**Summary of Work:** We explored stakeholders' reactions to shifting from a one-to-one apprenticeship model to training students in dyads during clerkships. Each day two students were paired and assigned to different clinical functions with a supervising doctor. We conducted semi-structured interviews with ten students, five nurses, twelve doctors and ten patients. The interviews were transcribed and analyzed inductively for emerging themes. Afterwards we used stakeholder value theory as the lens, through which we analyzed and interpreted data.

**Summary of Results:** The support from senior doctors and nurses often lacked and strong resistance against dyad training was displayed in several clinical settings. The main concern was that having two students present disrupted patient trust and increased time spent on supervision. These participants had the highest stakeholder power. Junior doctors and nurses, patients and students often displayed higher support than senior staff, but had lower stakeholder power. The patients did not oppose having two students present during their consultation and found that they contributed to the students' education. The students' support was mainly determined by the attitude from the supervising health professionals.

**Discussion and Conclusions:** Senior health professionals had the highest stakeholder power and found that dyad training disrupted focus on patient-centeredness. This consequently fostered resistance towards dyad training and made implementation impossible. However, the patients did not share this reservation, suggesting that they were instrumental in a value statement rather than the object of concern.

**Take-home Messages:** Dyad training in the clinical clerkships has learning potential, but to senior health professionals “two is a crowd”.

## #5FF - ePosters - Teamwork / Interprofessional Education

### 5FF10 (2009)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Norwegian health care students' experiences from interprofessional education on complex patients in nursing homes

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- Karin Svensberg, School of Pharmacy, Faculty of Mathematics and Natural Sciences, University of Oslo, Norway
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- Liv Mathiesen, School of Pharmacy, Faculty of Mathematics and Natural Sciences, University of Oslo, Norway
- Lene Hystad Hove, Institute of Clinical Dentistry, Faculty of Dentistry, University of Oslo, Norway
- Elin Olaug Rosvold, Faculty of Medicine, University of Oslo, Norway

#### ABSTRACT

**Background:** An increasing ageing population may lead to a higher prevalence of multi-morbidity. To address this complex situation in nursing homes there will be a need of an augmented interprofessional approach. Our study aimed to explore graduate students' experiences of interprofessional education (IPE) on patients with complex care needs in nursing homes.

**Summary of Work:** In spring 2018 students from six educations at the University of Oslo, Norway (advanced geriatric nursing, clinical nutrition, dentistry, medicine and pharmacy) were organized into interdisciplinary groups. The groups examined and developed a care plan for a nursing home patient. The students were then interviewed in focus groups. Data were analyzed according to Malterud's Systematic Text Condensation.

**Summary of Results:** 21 graduate students participated in four focus groups. The results indicated that IPE was a structural facilitator for new collective knowledge and it facilitated a cobweb of relations between students, patients, nursing home staff and educators. IPE was also an eye-opener for future interprofessional collaboration. The students reported that they became more confident about their own role and gained a better understanding of the importance of a multi-professional approach.

**Discussion and Conclusions:** The results indicate that nursing homes with complex patients are adequate learning arenas for IPE. The interprofessional education worked as an eye-opener for future collaboration and provided important experiences for all participating professions. The students reported to see the value of interprofessional collaboration when providing health care for complex patients. During the training, most students went from a unidisciplinary task distribution to an interprofessional work organizing.

**Take-home Messages:** One way to meet an ageing population with multi-morbidity in nursing homes, could be providing a comprehensive care by interprofessional teams. Our study indicates that graduate students experience interprofessional education as meaningful, and that interprofessional education might open a window for future interprofessional collaboration.

## #5FF - ePosters - Teamwork / Interprofessional Education

5FF11 (2206)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Interprofessional Large-Group Simulation of Sudden Infant Death Syndrome - Experiences of Students and Professionals

#### AUTHOR(S):

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- Marja Silén-Lipponen, Savonia University of Applied Sciences, School of Health Care, Finland
- Maria Palkolahti, University of Eastern Finland, Department of Nursing Science, Finland
- Marjorita Sormunen, University of Eastern Finland, Department of Nursing Science, Finland

#### ABSTRACT

**Background:** Simulation education is widely used in teaching interprofessional collaboration. While simulations are usually carried out in small groups, this study used a large-group simulation with 427 participants. A working group of our universities designed and implemented a scenario of a sudden infant death syndrome (SIDS). A team of professionals from pre-hospital care, police force, social care and church preformed the scenario. 301 students and 126 professionals followed the simulation scenario and the debriefing. Participation was possible either in a large lecture hall (n=337) or at distant locations (n=90).

**Summary of Work:** The purpose of this study was to describe the students and professionals' (n = 350) experiences of the interprofessional large-group simulation. The data was collected using a questionnaire with 5-step Likert-scale and open questions. Quantitative data was analyzed by descriptive statistical methods and open questions with inductive content analysis.

**Summary of Results:** Almost all participants were satisfied with the large-group simulation and considered it useful for their work or studies. The participants learned communication, respect towards the family and other professionals and handling of the crisis situation. The different roles of the professionals and the quality and requirements of the collaboration were highlighted. The areas of development were to improve the arrangements and implementation of the event.

**Discussion and Conclusions:** The learning experience from large-group simulation described by the participants was similar to the previous studies of small group simulations. This encourages us to continue these large-group simulations, as their implementation will allow even hundreds of learners to participate in the simulation event simultaneously, resulting in cost efficiency in teaching.

**Take-home Messages:** Large-group simulation proved out to be an innovative and useful method to be used in teaching within social and health care.

## #5FF - ePosters - Teamwork / Interprofessional Education

5FF12 (2973)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Simulation Based Education: Demonstrating effective multidisciplinary teamwork to undergraduate nursing and medical students

#### AUTHOR(S):

- Harriet Welch, Walsall Healthcare Trust, UK (Presenter)
- Thomas Wallbridge, Walsall Healthcare Trust, UK
- Priya Jalota, Walsall Healthcare Trust, UK
- Jonathan Pepper, Walsall Healthcare Trust, UK

#### ABSTRACT

**Background:** Successful multidisciplinary team working is an essential part of safe and effective clinical practice. Yet UK undergraduate nursing and medical students have little experience of formal multidisciplinary education. Therefore, upon graduating, many healthcare professionals are unsure of the roles and responsibilities of their newly qualified counterparts. Simulation training offers a controlled and supportive environment in which these misconceptions could be challenged and positive multidisciplinary working experienced. Moreover, the importance of good clinical communication, teamwork and leadership can be demonstrated in readiness for everyday clinical practice.

**Summary of Work:** Led by a multidisciplinary faculty, final year medical and nursing students participated in a simulation workshop comprised of two high-fidelity simulation scenarios, post-scenario debriefings and a tutorial introducing key non-technical skills. Within the scenarios, students were expected to assess acutely unwell patients whilst managing difficult colleagues, relatives and a multitude of distractions. Anonymised questionnaires focusing on the students understanding of non-technical skills was completed before and after the workshop.

**Summary of Results:** All 21 students (n=21) agreed that the workshop was useful and relevant to their undergraduate curriculum. Qualitative data showed a greater understanding of the roles and abilities of newly qualified nurses and doctors. Moreover, enthusiasm for interprofessional education was seen with many commenting that multidisciplinary participants increased the fidelity and realism of the simulation scenarios. Confidence in handing over information to colleagues rose from 71.4% to 95.2% following training. 100% of students were confident in raising concerns and in their understanding of non-technical skills as a result of the workshop.

**Discussion and Conclusions:** As medical educators, we are responsible for preparing students for clinical practice and thus ensuring that they have the skills necessary to work as effective members of the multidisciplinary team. Our results confirm that simulation training can be used to provide students with positive examples of multidisciplinary collaboration and successful clinical communication.

**Take-home Messages:** Simulation training is an effective way of incorporating multidisciplinary education into undergraduate studies of healthcare professionals in readiness for real-life clinical practice.



## #5FF - ePosters - Teamwork / Interprofessional Education

5FF13 (3120)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Interprofessional Education in the Real World: Creating a Foundation for Success in a Patient's Medical Home

#### AUTHOR(S):

- Amanda Condon, University of Manitoba, Canada (Presenter)
- Dana Turcotte, University of Manitoba, Canada

#### ABSTRACT

**Background:** Clinical care models, including the Patient's Medical Home (PMH), identify interprofessional teams as integral to optimal patient-centered care. These environments can provide authentic clinical learning opportunities for health professional learners. It is recognized that interprofessional education must ensure training in the context of the work environment so learners can develop the collaborative skills necessary to adapt to the clinical setting. Literature in this area is often focused on evaluation of select interventions or activities, with less emphasis on foundational structures and team culture that need to be in place within a clinical setting to optimize authentic learning experiences.

**Summary of Work:** An interprofessional primary care team in Winnipeg, Manitoba, Canada, provides comprehensive team-based care, in keeping with the PMH model, and regularly includes interprofessional learners. This poster describes the foundational structures and clinical activities within this team that support interprofessional learning and role modeling for health professional learners, as well as highlighting opportunities for ongoing optimization.

**Summary of Results:** Establishment of regular opportunities for primary care team members to meet, learn and collaborate together builds a foundation for students when they arrive on the team. Within this team, physical space and co-location, frequent team meetings, regular case discussion, shared learning opportunities, quality improvement activities and patient-focused referral/case management have authentically incorporated learners. These existing activities can be tailored to ensure appropriate inclusion of learners (and professionals) who may be present at any given time.

**Discussion and Conclusions:** Community-based primary care is well situated to provide authentic clinical interprofessional learning experiences for students across health professions. Existing foundational culture and workflow are key to optimal collaborative experiences in this environment. This foundation provides seamless incorporation of students into the existing team and thus, meaningful and authentic clinical experiences. Future work includes assessing how and what learners take away from these collaborative opportunities. What benefits do these experiences provide for students and team members? How can learners and teams be assessed on collaboration skills? What are other sites doing to address this health professional competency?

**Take-home Messages:** Strong foundations within a Patients Medical Home contribute to authentic interprofessional learning experiences in primary care.

## #5GG - Posters - Competency Based Education

### 5GG01 (2717)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring the challenges of implementing CBME across stages and specialties: a qualitative study

#### AUTHOR(S):

- Yi-Da Sie, China Medical University Hospital, Taiwan (Presenter)
- Fremen Chihchen Chou, Center for Faculty Development, China Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Competency Based Medical Education (CBME), which was developed under the background of Northern American medical education culture, has been practiced in many countries around the world nowadays. But few have been discussed systemically about what challenges are engaged along CBME implementation, especially to a non-Northern American healthcare system. This study aimed to reveal those challenges which are faced across different stages and specialties under CBME's three dimensions including the development of competency framework and progression of competencies, teaching and learning tailored to competency, and systemic assessment with the decision of trainee's progression.

**Summary of Work:** Participants were representative faculties from different specialties across Taiwan, including pediatricians, emergency physicians, internal physicians, ENT, GYN and anesthesiologists. They joined to explore their challenges faced onto three dimensions of CBME by means of World Café Method. Divergent idea and discussions from different perspectives were recorded through dictation and key idea were shared by cards during the conference. Qualitative content analysis with conventional approach was applied to let the themes emerging through coding and categorization.

**Summary of Results:** Here was summary of some key themes: Fragmented curriculum and the lack of consensus across intra- and inter-specialty. The lack of affordance of current healthcare system and environment toward CBME. The prevalence of existing educational system and learning culture among teachers and students. The paradoxical effect of assessments development in CBME. The more details and differences among specialties will be discussed in the conference.

**Discussion and Conclusions:** It is harder to achieve consensus across the more specialties and sub-specialties, and the faculties may get lost in fragmented contexts and different foci of duty. The existence of parallel system under current culture of teaching and learning allows teachers and students to postpone the change. We need both stakeholders and authorities to increase the affordance of working environment toward education to let CBME break the threshold.

**Take-home Messages:** It's time to challenge ourselves about the beliefs of workplace education and how much we want to and afford to pay for it.

## #5GG - Posters - Competency Based Education

### 5GG02 (2030)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Could milestone evaluation be an effective instructional scaffolding for residency training?

#### AUTHOR(S):

- Chien-yu Chen, Taipei Medical University Hospital, Taiwan (Presenter)
- Yi-No Kang, Taipei Medical University Hospital, Taiwan
- Kung-Pei Tang, Taipei Medical University, Taiwan
- Jeng-Cheng Wu, Taipei Medical University Hospital, Taiwan
- Chun-Chao Chang, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** The pedagogical principle of instructional scaffolding is to establish a shared goal, to break the learning objectives into manageable steps, and to provide support to tailor the needs of the learners throughout the learning process. The Anesthesiology milestone was adopted in Taipei Medical University Hospital since 2016. Residents' level of competence was evaluated once a week as shift cards and every six months as a formal progress report. This study aims at examining whether the implementation of milestone evaluations could facilitate residents' progress as an effective scaffolding teaching strategy.

**Summary of Work:** We retrospectively analyzed the data collected from 9 residents and 11 faculties who have engaged in the globalization process of the Anesthesiology milestone. We used multiple regression adjustment analysis to explore the influence of the number of milestone evaluation a resident experienced with his/her milestone score. Four major confounding factors (i.e., rater's gender, resident's gender, year of training, and self-assessment) were identified and adjusted accordingly.

**Summary of Results:** We analyzed 2125 milestone assessments within the period of June 2016 and December 2018. The results showed that after controlling several confounding factors, the number of milestone assessment itself could still positively predict a resident's overall rating score, whose regression coefficient Beta was .331 ( $p < .001$ ). Similar results were also noted in all domains of milestone, whose regression coefficients Beta were .403 (PC), .443 (MK), .310 (SBP), .411 (PBLI), .196 (PROF), and .194 (IPCS), respectively.

**Discussion and Conclusions:** Three essential elements make milestone evaluation in our institute an effective scaffolding pedagogy. Firstly, we treated evaluation as the collaborative interaction between the learner and the expert and offered sufficient support and guidance from the instructors. Secondly, we believed that learning could take place only in the resident's zone of proximal development, which means that assessors should be aware of the learners current level of knowledge and then work to a certain extent beyond that level. Thirdly, we regarded milestones as adjustable and temporal support for professional development just like scaffolds for building construction, which should be weaned gradually once independence is achieved.

**Take-home Messages:** Regular milestone assessments under tailored support is an effective instructional scaffolding for competency development during residency training.

## #5GG - Posters - Competency Based Education

### 5GG03 (2893)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Critical competencies in specialist physician training in occupational medicine (OM) and ways to assess these - trainers' perspective

#### AUTHOR(S):

- Marianne Rytkönen, University of Eastern Finland, Occupational Health and Medicine, Finland (Presenter)
- Kari Reijula, Helsinki University, Department of Public Health - Occupational Health, Finland
- Asta Toivonen, University of Helsinki, Department of Public Health - Occupational Health, Finland
- Leena Ala-Mursula, University of Oulu, Center for Life Course Health Research, Finland

#### ABSTRACT

**Background:** The specialist physician training is under reform in Finland. Current changes include the building of competency based curriculum. In specialist physician training in occupational medicine (OM), provided by five universities, there were 907 trainees and 358 trainers in 2017 nationwide. The curriculum aligns the training in the workplace. The reform requires re-evaluation of the target competencies and development of feasible assessment practices. We aimed to explore the trainers' views on these.

**Summary of Work:** In 2018, we carried out an online survey among trainers in the specialty of OM at the University of Helsinki. We used both multiple choice and open-ended questions to explore trainers' views of the critical competencies and assessment of these. Furthermore, we scrutinized their experiences and beliefs of the purposes of the assessment. We used descriptive statistics in the quantitative data. We analysed the qualitative data thematically.

**Summary of Results:** 45/123 (37%) actively training trainers answered the survey. Knowledge management and communication competencies were emphasized (mean 4,9 in 5-point Likert scale). The three most often described competencies were communication, medical and work ability related expertise. Trainers were engaged in the assessment in the beginning, in weekly tutorial sessions and every six months during the training. They valued the possibilities for consultations, collaboration and discussing challenging situations to follow the trainees' development.

**Discussion and Conclusions:** Trainers in OM specialist training are active and engaged in coaching. They have the key role in assessing the development of the trainees. They consider this role essential. This is important since the training mostly takes place at work under their guidance. For the universities, it is crucial to involve the trainers in the curriculum development and explore their views of the competencies needed in everyday practices.

**Take-home Messages:** Training in the specialty of OM is university led, learning at work and supervised by the trainers. Trainers describe communication, medical and work ability related expertise as the most critical competencies. Trainers are engaged in following the development of their trainees and thus important for the trainees' learning process. They are in a grandstand view to the changes in the practice of the specialty.

## #5GG - Posters - Competency Based Education

### 5GG04 (1542)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Designing a Hybrid Faculty Development Program for Competency-Based Medical Education Implementation

#### AUTHOR(S):

- Jason Jiunshiou Lee, Taipei City Hospital, Taiwan (Presenter)
- Ting-Fang Chiu, Taipei City Hospital, Taiwan
- Jung-Chieh Du, Taipei City Hospital, Taiwan
- Yi-Ning Liu, Taipei City Hospital, Taiwan
- Dachen Chu, Taipei City Hospital, Taiwan
- Li-Lin Kuo, Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** Competency-based medical education(CBME) is an outcome-based approach that involves teachers identifying the abilities required of residents or younger healthcare professionals. Taipei city hospital will be launching CBME in 2019 so faculty must understand the theory behind and learn to coach trainees how to meet the entrustable professional activities(EPAs)/milestones and assess the achievements.

**Summary of Work:** The center for faculty development(CFD) has held a hybrid faculty development program(HFDP) for CBME last December. The CFD emailed four related articles to clinical teachers who signed up for the HFDP three days earlier. On the program day, the CFD gave two 30-minute-interactive lectures, two 45-minute-workshops, and 30-minute panel discussions. During the workshop, each healthcare professional group built the EPAs and shared their thoughts as well. A total of 44 clinical teachers participated and finished ten multiple choice questions(MCQs) before and after the HFDP. All of the MCQs tested for the important CBME concepts(total score: 10). We also asked participants "Have you read the related articles before the HFDP?"

**Summary of Results:** Seven participants have read the related articles before the HFDP(group1) while thirty-seven participants have not(group2). The difference-in-difference method and analysis of covariance were used to compare the changes in pre- and post-HFDP MCQs across the two groups. The average pre- and post-HFDP scores were 4.29( $\pm 2.14$ ) and 8.00( $\pm 2.58$ ) of the group1 and 3.68( $\pm 2.16$ ) and 8.38( $\pm 1.52$ ) of the group2, respectively. The accuracy percentage of post-HFDP scores among the two groups were 8.00 and 8.38( $p=0.57$ ) while the changes(difference-in-difference) among the two groups showed statistically significantly( $p=0.0077$ ).

**Discussion and Conclusions:** Although only 16% of participants read the related articles before the HFDP, the hybrid program including interactive lectures, workshops, and panel discussions helped all the participants learn the concepts well by participating in the CBME activities and brainstorming for the EPAs with peers. The HFDP helped all participants have a high level(80%) of having important CBME concepts.

**Take-home Messages:** Although emailed articles might not be a good way for hospital staffs for pre-class preparation due to heavy work loading, a hybrid faculty development program for CBME could help clinical teachers gain a greater understanding of CBME and know how to implement CBME in their curriculum designs.



## #5GG - Posters - Competency Based Education

### 5GG05 (2214)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Development of the Brazilian Competencies Framework in Gynecology and Obstetrics: An innovative experience

#### AUTHOR(S):

- **Gustavo Salata Romao, University of Ribeirao Preto, Brazil (Presenter)**
- Raquel Autran Coelho, Federal University of Ceara, Brazil
- Ricardo de Carvalho Cavalli, Ribeirao Preto Medical School University of Sao Paulo, Brazil
- Sheyla Ribeiro Rocha, Federal University of SAo Carlos, Brazil
- Francisco José Cândido dos Reis, Ribeirao Preto Medical School University of Sao Paulo, Brazil
- Marcos Felipe Silva de Sá, Ribeirao Preto Medical School University of Sao Paulo, Brazil

#### ABSTRACT

**Background:** The development of competencies by the medical resident is required for the professional performance. The competencies framework is a set of essential knowledge, skills and attitudes and a guide for the training, evaluation and certification. We identified the need to elaborate the Brazilian Competencies Framework in Gynecology and Obstetrics (BCF-GO).

**Summary of Work:** Based on international experiences and aligned with the current Brazilian residency guidelines, the Brazilian Gynecology and Obstetrics Society (Febrasgo) developed the initial version of BCF-GO. The content validity was obtained through a panel of specialists composed of 360 experts of 25 Febrasgo Specialized Commissions who evaluated the relevance and adequacy of 21 competencies axes in different areas of activity. The consultants suggestions were incorporated into the BCF-GO final version. In order to make it useful to the residency programs, Febrasgo implemented a competency-oriented training course for resident supervisors.

**Summary of Results:** BCF-GO consists of 21 competencies axes including professionalism and patient safety, distributed in three levels of milestones. Each level of milestones is based on the expected performance in each step of the training program. This document was approved by the National Medical Residency Commission of the Ministry of Education, thus becoming the official guide for training, evaluation and certification of specialists in Gynecology and Obstetrics in Brazil. Since BCF-GO was published many programs are adhering to these new benchmarks and other medical specialties such as pediatrics and family medicine are developing competencies frameworks. More than 200 resident supervisors from all over the country are applying the Febrasgo training course.

**Discussion and Conclusions:** BCF-GO was developed through a valid and reliable method. The participation of the supervisors in the training course and the development of competency frameworks in other medical specialties reflects the great acceptance of this work by the academic community. The approval of the BCF-GO in the Ministry of Education is an evidence of its recognition by the Brazilian political authorities.

**Take-home Messages:** The competency framework is a great reference for the training, evaluation and certification of medical residents and its development should be performed through valid and reliable methods.

## #5GG - Posters - Competency Based Education

### 5GG06 (594)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### An A-S-K competency model for medical graduates in China

#### AUTHOR(S):

- **Gang Xin, Shantou University Medical College, China (Presenter)**
- Shaoyan Zheng, Shantou University Medical College, China
- Pi Guo, Shantou University Medical College, China
- Zihua Li, Shantou University Medical College, China
- Xiaoqing Huang, Shantou University Medical College, China

#### ABSTRACT

**Background:** The aim of this study is to build an attitude-skill-knowledge (A-S-K) competency model in China and to identify core and development of competencies for Chinese medical graduates.

**Summary of Work:** This is a cross-sectional study carried out among Chinese medical graduates who graduated this year (graduates), 3 years ago (residents) and 5 or 6 years ago (senior doctors) from medical schools in China. Data were collected using self-assessment questionnaire and behavioral event interview (BEI). The questionnaire was designed based on 36 competency items of medical graduates on 5-point Likert scales where 1 is “beginner” and 5 is “expert”. The reliability and validity of the questionnaire system were analyzed. Then BEI was conducted to confirm the characteristics of the model and identify the core and development of competencies.

**Summary of Results:** The number of graduates, residents and senior doctors who responded to the questionnaire is 226, 193, and 186 respectively. Three dimensions of the 36 items were identified by exploratory factor analysis and confirmatory factor analysis. The A-S-K competency model was emerged to be composed by 8 attitude items, 10 skill items and 18 knowledge items. Then 15 graduates, 15 residents and 13 senior doctors were interviewed. By analyzing the highest competencies mentioned by the participants, five core competencies were identified as communication and cooperation with patients, teamwork, principle of patient-centered care, making treatment plan and application of clinical knowledge. The development of competencies was identified by comparing the BEI data of residents with graduates, and senior doctors with residents. Competencies as communication and teamwork were developed significantly during medical practice.

**Discussion and Conclusions:** The five core competencies of Chinese medical graduates identified by this study were similar with previous core competencies models such as ACGME and CanMEDS. The development of competencies was also identified. The model could be used as a tool for the Chinese medical graduates to assess their competencies.

**Take-home Messages:** An A-S-K competency model in China was built and five core competencies were identified. The competencies such as communication and teamwork could be developed with the medical practice.

## #5GG - Posters - Competency Based Education

### 5GG07 (972)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring the “Essential” Competencies Acquired by Japanese Midwives Graduating from a One-Year Post-Nursing Program

#### AUTHOR(S):

- Akiko Uehara, Seisen Jogakuin College, Faculty of Nursing-Science, Japan (Presenter)
- Yoshikazu Asada, Jichi Medical University, Japan
- Atsuko Yumoto, Saku University, Japan
- Mariko Shibata, Saku University, Japan
- Yoshimi Takeuchi, Saku University, Japan
- Satoko Nakata, Saku University, Japan

#### ABSTRACT

**Background:** Competency-based medical education has been gaining prominence, and in 2009, the Japanese Midwives Association introduced 45 “essential” competencies based on those of the International Confederation of Midwives. After a decade, however, there are no evaluations of Japanese midwives’ competencies. This study aims to assess the level of acquired by midwives in Japan.

**Summary of Work:** Self-report questionnaires were issued to 56 graduates of the one-year post-nursing program between December 2018 and January 2019. These students rated themselves against 45 competencies at the time of both their graduation and the survey, using 4 levels: level 0, either no experience of or failing to demonstrate the competence; level 1, able to demonstrate the competence with the support of others; level 2, able to demonstrate the competence independently; level 3, able to demonstrate the competence and support the performance of others. The responses were scored from 0 (level 0) to 3 (level 3) and the data then analyzed using Wilcoxon signed-ranks test. The Institutional Review Boards (IRB) at Saku University approved this study protocol.

**Summary of Results:** A total of 24 graduates participated in the survey. Their mean age was 27.3 (5.5SD) with a mean of 2.0 (1.1SD) years’ experience as a midwife. The mode of 2 competencies reached level 2 at graduation, but except for 2 more at level 1, others were level 0. When surveyed, the mode of 1 competency reached level 3, with 26 at level 2, but 17 competencies remained at level 1 and 1 at level 0; however, the mean value of 42 competencies had risen significantly ( $p < 0.05$ ).

**Discussion and Conclusions:** These results raise the issue of validating of the competencies for midwives and the one-year post-nursing curriculum in Japan. In future, it is essential that the level of the competencies acquired is evaluated by others, such as managers and peers.

**Take-home Messages:** Japanese midwives had not acquired 43 out of 45 “essential” competencies at graduation and 17 competencies remained at minimum level 1 at the time of the survey.

## #5GG - Posters - Competency Based Education

### 5GG08 (3197)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Digital Badges in Medical Education: A Systematic Review

#### AUTHOR(S):

- Julie Noyes, Washington State University, USA (Presenter)
- Patrick Welch, Ethos Veterinary Health, USA
- Jason Johnson, Lincoln Memorial University, USA

#### ABSTRACT

**Background:** Competency-based medical education de-emphasizes equating competency with grades and focuses on abilities as salient learning outcomes. A challenge to this model is providing evidence for clinical competencies. Integrating digital badges into medical curricula offers a solution by establishing specific achievement criteria and verification of skill acquisition. This innovative competency credentialing system can enhance patient safety by providing evidence of learners' clinical aptitude prior to interactions with patients. Despite growing interest in digital badges, a synthesis of the medical education literature regarding the design, implementation, and effectiveness of the credentialing strategy does not exist. This study sought to address this gap by conducting a systematic review to comprehensively identify, critically appraise, and meticulously synthesize the literature on digital badges in medical education.

**Summary of Work:** A rigorous and systematic search of major databases and key journals from 2008-2018 was performed according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Quality assessment, methodological scoring, quantitative analysis, and thematic extraction was conducted.

**Summary of Results:** The 201 relevant records were screened for inclusion, resulting in 26 papers for analysis. All records were published since 2014 and the majority (84%) were journal articles referencing general medicine topics (69%). Quality scores (mean $\pm$ -SD) were relatively low: MERSQI (9.0 $\pm$ -2.2, maximum=18); NOS (3.3 $\pm$ -0.3, maximum=6). Theoretical frameworks focused on motivation and social cognitive theories (self-regulation, goal-setting). Typically, badges represented extrinsic motivators with design and implementation strategies framed within gamification contexts. Studies mainly reported subjective outcomes using various validated instruments (Badge Opinion Survey, Instructional Materials Motivation Survey, ARCS-Badge Motivation Survey).

**Discussion and Conclusions:** The results indicate a growing momentum of utilizing digital badges as an innovative credentialing strategy to provide evidence for clinical skill acquisition within a competency-based framework. Important literature gaps were revealed such as a deficit of empirically-designed studies and a lack of objectively measured learning outcomes.

**Take-home Messages:** Digital badges can provide evidence of clinical competencies; thereby, enhancing patient welfare. There is a paucity of research on the design and implementation of this credentialing system. High quality comparative analyses reporting institutional and patient-care outcomes is needed to evaluate effectiveness and moderating conditions of digital badges.

## #5GG - Posters - Competency Based Education

### 5GG09 (1322)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Effects of Team-Based Inter-Professional Simulated (TIPS) Training Course on Improving the ACGME Core Competencies of Medical and Nursing Students: A Quasi-Experimental Study

#### AUTHOR(S):

- Chao-Yen Huang, Chung Shan Medical University Hospital, Taiwan (Presenter)
- Ming Che Tsai, College of Medicine, Chung Shan Medical University, Taiwan
- Chiou-Fang Liou, Department of nursing, Chung Shan Medical University, Taiwan
- Cheng-Yi Huang, Department of nursing, Chung Shan Medical University, Taiwan
- Huan-Wen Hsu, Department of Emergency Medicine, Chung Shan Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** An essential goal of medical education is to help students develop ACGME core competencies before graduation. Simulation is an efficient modality to improve learners' core competencies required for future clinical practice.

**Summary of Work:** The study enrolled seventh-year medical and forth-year nursing students to participate in a 1-hour team-based inter-professional simulated (TIPS) curriculum modules. The high-fidelity simulated scenarios focus on clinical problem-solving and concepts of team resource management (TRM). A safe and supportive learning environment was built before the simulation began, for the instructor to encourage successful team discussion and self-reflective debriefing after completion of the scenarios. All students completed the 35-item TIPS questionnaire before and after the simulation. Adopting the framework of the ACGME 6 core competencies, TIPS questionnaire was designed to measure students' perceptions of TRM, simulation learning modality and inter-professional education (IPE). For examples, leadership and role in TRM represented professionalism in ACGME.

**Summary of Results:** A total of 113 participants (including 54 medical and 59 nursing students) completed the pre-test and post-test TIPS questionnaire. The internal reliability of the TIPS questionnaire was  $\hat{\alpha} = 0.95$ . The average score of student's perception towards all six ACGME core competencies increased following their completion of the simulation training, most notably in the relevance of practice-based learning ( $4.12 \pm 0.53$  to  $4.51 \pm 0.49$ ), medical knowledge ( $3.75 \pm 0.43$  to  $4.04 \pm 0.46$ ) and system-based practice ( $4.24 \pm 0.50$  to  $4.48 \pm 0.52$ ). Paired t tests showed statistically significant improvement in all TIPS sub-scale measures.

**Discussion and Conclusions:** Team-based simulated scenarios offer interdisciplinary students opportunity to know each other, communicate and work closely together in a safe, clinically relevant environment. Through experiencing problem-solving tasks and debriefing processes, participants analyzed and reflected themselves to improve performance in the future. After the program, there was a markedly positive change in developing students' perceptions of ACGME core competencies. These finding suggests that more team-based simulated IPE training courses should be encouraged.

**Take-home Messages:** The introduction of team-based inter-professional simulated learning experiences leads to a substantial improvement in medical and nursing students' perceptions of ACGME core competencies before graduation.



## #5GG - Posters - Competency Based Education

### 5GG10 (3124)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical students' attitudes towards expected competencies in the outcome-based curriculum

#### AUTHOR(S):

- Mahboobeh Mafinejad, Tehran University of Medical Sciences, Iran (Presenter)
- Azim Mirzazadeh, Tehran University of Medical Sciences, Iran
- Maryam Alizadeh, Tehran University of Medical Sciences, Iran

#### ABSTRACT

**Background:** One of the most important challenges in outcome-based education is to understand the necessity of acquiring competencies by students. The purpose of this study was to investigate students' views and attitudes towards expected competencies in the undergraduate medical education program at Tehran University of Medical Sciences between 2017- 2018.

**Summary of Work:** This quasi-experimental study used a one-group pretest-posttest design. The orientation program was offered to 442 medical freshmen in the initial days of the curriculum. The response rate was 73%. One hundred forty-six percent were female (45.2%). Each of the students was thought about different competencies actively and then reflects on how to accomplish outcomes by giving some exemplifies. Pretest and posttest were administered to compare the students' attitudes toward the importance of obtaining the competencies. A dependent t-test was used to analyze the data.

**Summary of Results:** There was a significant difference between the students' understanding of the importance of acquiring the competencies before and after the program in some areas including effective communication with patients and their families ( $p=0.03$ ,  $t=2.15$ ), interaction with medical team members, nurses and other colleagues ( $p<0.01$ ,  $t=2.90$ ), work-life balance skills ( $p=0.01$ ,  $t=2.40$ ), stress management and emotional regulation ability ( $p<0.01$ ,  $t=2.72$ ), ability to collect and critique the information ( $p=0.02$ ,  $t=2.37$ ), and familiarity with the healthcare system and role of physician ( $p=0.03$ ,  $t=2.25$ ).

**Discussion and Conclusions:** Most of the students believed that the orientation program at the beginning of the undergraduate medical education program is necessary and increase their motivation to acquire and reinforce the competencies during their studies. In addition, assessment of their attitudes before and after it shows a significant change in some of the areas associated with the competencies.

**Take-home Messages:** Medical students should be aware regarding expected competencies, especially in terms of psychosocial outcomes like communication, personal development, and critical thinking.

## #5GG - Posters - Competency Based Education

### 5GG11 (198)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluation of Simulated Training Scenarios and Debriefing Quality Using a Competence-Based Behavioral Checklist

#### AUTHOR(S):

- Yoshitaka Maeda, Jichi Medical University, Japan (Presenter)
- Yoshikazu Asada, Jichi Medical University, Japan
- Yoshitaka Kikkawa, Jichi Medical University, Japan
- Chiaki Takahashi, Jichi Medical University, Japan
- Michiko Kameda, Jichi Medical University, Japan
- Megumi Watai, Jichi Medical University, Japan

#### ABSTRACT

**Background:** In Japan, scenario-based simulated training allows novice nurses to experience multitasking. Scenarios are based on clinical events so that novices can encounter the seven competencies of multitasking as nurses, including fall risk management, communication, and prioritization of tasks. In our training, all novice nurses experience all competencies through three scenarios. For example, the patient has coughing fits when the nurse leaves for toileting assistance with another patient. Immediately after each scenario, debriefing by nurses is conducted. Although training success depends on the scenario and debriefing quality, it is difficult to evaluate effectiveness of these two factors; thus, we developed a competence-based behavioral checklist and proposed a method to evaluate the effectiveness of scenarios and debriefing.

**Summary of Work:** First, we developed a list of 25 ideal observable behaviors expected of nurses after acquiring seven competencies through each scenario. We evaluated nurses' behavior in each scenario using this list, and whether behaviors listed were sufficiently reviewed during debriefing. In this training, 124 nurses were divided into groups of 6-8. Summarizing the list clarified scenario and debriefing effectiveness.

**Summary of Results:** All listed behaviors were discussed by all groups in debriefing. In the final scenario after debriefing twice (roundup scenario), approximately 80% nurses could perform 19 of the 25 listed behaviors. Further, comparing before and after debriefing, the implementation rate of behaviors related to competence in drip infusion management greatly increased; it is possible that nurses sufficiently acquired the seven competencies through scenarios and debriefing. However, 49% nurses did not auscultate the patient with coughing fits, a weak point in that scenario.

**Discussion and Conclusions:** Using this checklist, scenario and debriefing advantages and weaknesses can be analyzed based on nurses' behavioral tendencies. Moreover, the list can clarify how debriefing changes nurses' behavior. With each item of the checklist being linked to the seven competencies, identifying each nurse's achievement of competence is possible.

**Take-home Messages:** Evaluating nurses in scenarios using a competence-based behavioral checklist enables assessment of the effectiveness of training scenarios and debriefing. Additionally, using a behavior-focused list enables clarification of specific points for scenario improvement and emphasis in debriefing.

## #5GG - Posters - Competency Based Education

### 5GG12 (1597)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of a Blockchain Based Digital Credential Framework for Competency Based Learning in the Veterinary Industry

#### AUTHOR(S):

- Jason Johnson, Lincoln Memorial University-College of Veterinary Medicine, USA (Presenter)
- Patrick Welch, Ethos Veterinary Health, USA
- Julie Noyes, Washington State University, USA

#### ABSTRACT

**Background:** Competency-based medical education is a learner-centered model that de-emphasizes equating competency with grades and focuses on abilities and achievement as salient learning outcomes. A challenge to this model is providing verification of skill acquisition in an appropriate format. As veterinary education and post-graduate continuing education become progressively decentralized the framework for capturing and sharing data related to these educational activities becomes critical. We are proposing a new-generation digital credential framework based on blockchain technology that represents an innovative strategy for credentialing competencies. Blockchain is a secure, digitized, decentralized ledger that serves as an ideal technology for this application, creating a method for multiple distributed entities to issue and accept credentials that are portable, verifiable, shareable and discoverable.

**Summary of Work:** We have been working with IBM to explore this concept, and recently assembled a diverse group of stakeholders in the veterinary ecosystem (private practice groups, Associations and Organized Veterinary Medicine, and Academic institutions) representing a wide range of backgrounds (veterinarians, veterinary technicians, veterinary students, executives) to participate in a two day IBM design thinking session, where we were joined by eight IBM team members. The result was the creation of a 47-page document that provided the framework for the development of a minimum viable product (MVP).

**Summary of Results:** We are now prepared to develop and launch an MVP based on this work. The MVP will represent a blockchain based learner credentialing network that will bring together educational entities, learners and employers, allowing them to issue, share and validate learner credentials in a secure manner.

**Discussion and Conclusions:** Blockchain is a team sport, and success requires a shared vision for the future. At its core, Blockchain enhances the ability for diverse individuals and organizations to transact with each other without the necessity of a central authority. For this reason, it is crucial to create a healthy ecosystem where participants (even competitors) work together to solve the same problem. We look forward to working to create such an ecosystem in the veterinary industry.

**Take-home Messages:** We believe this is an opportunity to fundamentally transform veterinary education by providing a foundation for a learner-centered transformation of the learning and growth within our industry.

## #5GG - Posters - Competency Based Education

### 5GG13 (484)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Maintaining the Momentum for the Transition to CBD: CBME Strategic Planning

#### AUTHOR(S):

- **Moyez Ladhani, McMaster University, Canada (Presenter)**
- Sharon Cameron, McMaster University, Canada
- McMaster CBME Executive Committee, McMaster University, Canada

#### ABSTRACT

**Background:** Twenty-two RCPSC programs at McMaster University (about 40%) of programs will have transitioned to a competency-based model of residency education by July 2019. The transition to CBD poses several challenges including: information overload, limited financial and human resources, the development of information technology, and supporting the diverse needs of programs going through different stages of the transition simultaneously.

**Summary of Work:** The McMaster CBME office was formed in October 2016. In October 2018, the CBME Office held a strategic planning retreat that brought together residency program directors, residency program administrators, departmental education vice-chairs, residents, hospital leaders, researchers, education leaders from the distributed sites, information technology specialists, and others. The purpose of this meeting was to develop a strategic plan that would help guide the work of the CBME office for the next 1 - 3 years.

**Summary of Results:** Key priorities identified were the need for continued change management, educational development, information technology development and implementation, resources, and program evaluation. An action plan to address gaps and challenges around these priority areas was created collectively with stakeholders.

**Discussion and Conclusions:** Momentum for the ongoing transition to a competency-based model of residency education needs to be sustained. To do so, four areas for action were identified: • Training and education tools to facilitate and support the transition. • Resources (human, financial, education) to support the change. • Information technology that will support the new model of assessment. • Program evaluation for all stages of the transition (particularly prior to and during the implementation stage) will guide the iterations of change. The importance of program evaluation should be promoted.

**Take-home Messages:** Priority areas for implementing CBME residency programs needs to be identified at each school, and within each program. Stakeholders' perspectives should be incorporated when identifying priorities and developing strategies for the ongoing implementation of competency-based residency programs. The transition is resource intensive and it is key to look for opportunities for efficiencies and partnerships. While program evaluation is listed as a priority area, initially the group thought the consideration of program evaluation was daunting; however, after discussion agreed that it is important to include.

## #5GG - Posters - Competency Based Education

### 5GG14 (897)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Construction and Analysis of a First Aid Competence Index for Nurses in the Two-Year Nursing Postgraduate Training Program

#### AUTHOR(S):

- Shih-Ying Yen, MacKay Memorial Hospital, Taiwan (Presenter)

#### ABSTRACT

**Background:** In-hospital cardiac arrest is a patient safety issue which also attracts extensive attention worldwide. Nursing staffs are often the first line members to initiate rescue process when discovering unstable hemodynamics of the patients. Although new nursing staffs had training courses in the Two-Year Postgraduate Training Program for Nurses (NPGY2) provided by the Ministry of Health and Welfare-in which basic concepts of first aid are acquired, technical courses are taken, and basic life support certification is obtained-NPGY2 nurses were still incapable of identifying emergency condition and solving patient's problems immediately. Their incompetence in first-aid skills may influence the rescue efficacy and also lead to increase in-hospital morbidity and mortality. For patient safety, it is crucial to evaluate the first aid competence of NPGY2 nurses.

**Summary of Work:** The main purpose of this study was to construct NPGY2 nurses' first aid capability scale. We test reliability and validity of the scale in order to know the applicability of the verification scale in clinical practice and research, and construct a useful tool to assess the NPGY2 nurses' first aid capability. We first developed a scale focusing on the first aid ability by Defi method and confirmatory factor analysis.

**Summary of Results:** The confirmatory factor analysis consisted of five facets with a total of 15 questions; critical thinking ability, emergency response ability, first aid related technical operation ability, medical team cooperation ability, medical team Communication ability, the construction reliability of each facet is .812, .744, .833, .887, .874. The Cronbach's  $\alpha$  coefficient of the overall scale is 0.920, and the alpha coefficients of each facet are .808, .748, .830, .880, .866.

**Discussion and Conclusions:** Adding training courses such as first-aid case analysis, post-emergency case discussions, can improve the overall first-aid ability of nursing staffs. Our study showed that this scale has good reliability and validity. The scale may be used as an objective indicator for assessing the effectiveness of first aid in the NPGY2 nurses.

**Take-home Messages:** The future research scale design can be based on the students seniority and combined with the Entrustable Professional Activities (EPAs) to develop a first aid capability scale.



## #5HH - Posters - Transition

### 5HH01 (163)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Multiple Transitions of Undergraduate First-Year Students in the MBChB Programme: Expectations, Experiences and Emotions

#### AUTHOR(S):

- Nokuthula Tlalajoe, University of the Free State, South Africa (Presenter)
- Mpho Jama, University of the Free State, South Africa

#### ABSTRACT

**Background:** The transition from school to tertiary study can be daunting and overwhelming. Many students who have potential are underprepared for this transition. However, institutions are equally as underprepared. Studies on transition into medical programmes have only focused on the “state of being a first-year medical student” rather than the “transition process” itself. The focus of this paper will not only be on the transition process, however, on the multiple transition phases within the first year of the MBChB programme at the University of the Free State (UFS), South Africa. The aim was to determine the first-year undergraduate medical students’ perception of their multiple transitions within the first year.

**Summary of Work:** Two focused group discussions were held in 2017 with 19 first-year undergraduate medical students who went through multiple transitions within their first year of the MBChB programme. Three transitional phases were investigated; (i) the beginning of the first year (phase 1), (ii) six months later (phase 2), (iii) back into the beginning of the first year for the second time (phase 3). The focus during the discussions was on their perceptions of the multiple transition phases. Three main themes were identified namely the expectations and experiences, emotions and recommendations during analysis of data.

**Summary of Results:** According to the results, most students stated that during the initial transition, lecturers and senior students did not provide them with a “big picture” regarding expectations in the MBChB programme. Instead, expectations shared did not match their “real” experiences in the programme. Eventually, they experience different forms of emotions. The main recommendation from the students was the importance of social integration and relationships in the faculty and with lecturers.

**Discussion and Conclusions:** Medical schools such as the UFS should consider the multiple transitions that students go through within their first year, and design strategies that will ease these transitions.

**Take-home Messages:** The lack of social integration during transition should be prioritized among undergraduate first-year medical students.

## #5HH - Posters - Transition

### 5HH02 (1303)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical students' learning strategies during transition to clinical training are strongly associated with their levels of burnout and wellbeing

#### AUTHOR(S):

- Denisse Zuniga, Pontificia Universidad Catolica de Chile, Chile (Presenter)
- Guadalupe Echeverría, Pontificia Universidad Catolica de Chile, Chile
- Oslando Padilla, Pontificia Universidad Catolica de Chile, Chile
- Maribel Calderon, Pontificia Universidad Catolica de Chile, Chile
- Marcela Bitran, Pontificia Universidad Catolica de Chile, Chile

#### ABSTRACT

**Background:** Transition to clinical training involves numerous learning and personal challenges for medical students. Not surprisingly, this period is associated with significant erosion in students' wellbeing, with one in two students developing burnout, a syndrome characterized by emotional exhaustion, depersonalization and diminished personal accomplishment. The objective of this study was to characterize the learning strategies used by medical students in this transition and study its association with burnout, wellbeing and academic performance.

**Summary of Work:** 1,394 medical students (44.4% females) from eleven Chilean universities enrolled in years 4 and 5 of a 7-year curriculum participated in this cross-sectional study. They answered validated questionnaires of burnout (Maslach Burnout Inventory, MBI), psychosocial wellbeing (Mental Health Continuum, MHC-SF) and clinical learning strategies (Clinical Learning Strategies Questionnaire, CEACLIN). CEACLIN is a 48-item scale rated with a 4-point frequency scale and comprised of four dimensions: Academic Engagement (AE), Study Techniques (ST), Emotion Regulation (ER) and Stress Management (SM).

**Summary of Results:** Women reported using more frequently the learning strategies associated with AE, ST and ER, compared to men. The pattern of strategies used by students also varied across universities. The prevalence of Burnout among the participants reached 53.8%. Burnt-out students reported lower use of strategies associated with AE, ST and ER as well as higher levels of SM use. Inversely, flourishing students reported higher levels of AE, ST and ER use and lower levels of SM. Grades were directly associated with the level of AE-related learning strategies and inversely associated with ER and SM, after controlling for sex, university, burnout and wellbeing status.

**Discussion and Conclusions:** The frequent use of clinical learning strategies associated to AE, ST and ER dimensions is strongly associated with lower levels of burnout and higher wellbeing. SM is inversely associated. AE, ER and SM, but not ST, were associated with grades.

**Take-home Messages:** Learning strategies such as academic engagement, study techniques and emotion regulation in clinical training could help students to deal better with the inherent distress of medical studies. Academic engagement appears as a key learning strategy to achieve better grades. SM seem to be a response to burnout. Funding provided by FONDECYT 1150340.

## #5HH - Posters - Transition

### 5HH03 (3317)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Facilitating a successful transition from academic to clinical education for medical students

#### AUTHOR(S):

- **Brooke Short, University of Newcastle, Australia (Presenter)**
- Upuli Pahalawatta, University of Newcastle, Australia
- Carol Hood, University of Newcastle, Australia
- Louise Lambeth, University of Newcastle, Australia
- Mary-Ann Ryall, University of Newcastle, Australia
- Michael David, University of Newcastle, Australia
- Amanda Dawson, University of Newcastle, Australia

#### ABSTRACT

**Background:** The transition from the academic phase of medical school to the full-time clinical environment can often be difficult and stressful. Beginning Education At Central Coast Hospitals (BEACCHES) was developed as an experiential wilderness experience to assist this transition and increase student awareness of the resources available for their support.

**Summary of Work:** Aims This project has two aims, to provide students with first responder education and to introduce students to the Central Coast, their fellow students and their support staff. Sessions on first responder training specific to coastal and remote locations included: First aid and Surf safety with the Ocean Beach Surf-Life saving club, antivenin education with the Australian Reptile Park. The second aspect to this program was management of changing expectations in the new environment. A mental health forum with representatives from junior medical staff who were previous students, senior clinicians and academic support officers was held. In addition, a presentation on managing work-life balance and awareness of mental health issues was run. Method A two-day workshop was held on the Central Coast. Pre and post workshop surveys were conducted with a combination of matrix questions, Likert response scales and long answer questions. Ethics was obtained. Both quantitative and qualitative responses were analyzed.

**Summary of Results:** Excellent feedback regarding this program was received all students reporting an increase in knowledge in all three domains of critical medicine and evacuation issues, student health and workload management, and Central Coast Community and environment. The areas of greatest knowledge in each of these domains were management of surf incidents, signs and symptoms of PTSD and central coast marine and ocean environment. An increase in confidence was seen in responding effectively to an emergency situation, particularly in response to improvisation in the field. All findings were statistically significant with all P-values <0.01. In the following 6 months one student has self-reported for assistance with stress management as a result of this forum

**Discussion and Conclusions:** The addition of BEACCHES to the orientation of medical students at the Central Coast Medical School has demonstrated itself to be an effective program for allowing students to adjust more quickly to full time clinical education.

## #5HH - Posters - Transition

### 5HH04 (2272)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Easing the Transition of Medical Student to Professional Practitioner: The Implementation of a Near-Peer Led Teaching Session in Induction Week across East of England Region

#### AUTHOR(S):

- **Katie Wood, Mid Essex Hospital NHS Trust, UK (Presenter)**
- Emily Farrow, East and North Hertfordshire NHS Trust, UK
- Titilopemi Oladosu, Norfolk and Norwich University Hospitals NHS Trust, UK
- Bina Patel, Cambridge University Hospitals NHS Trust, UK
- Isabelle Goldrick, Barts Health NHS Trust, UK

#### ABSTRACT

**Background:** The UK General Medical Council emphasize the importance of preparation for clinical practice, however, transitioning from medical student to professional practitioner as a foundation year 1 (FY1) doctor can be challenging for newly qualified doctors.

**Summary of Work:** We implemented a near-peer led teaching session titled 'Asked to See Patient' (ATSP) which was taught across 19 hospitals in the East of England region of the UK. We trained 57 current FY1 doctors via two half day 'teach the teacher' courses in Cambridge, to design and deliver the ATSP session during induction week to the incoming FY1 doctors at their local hospitals. They could choose from a variety of scenarios, and were encouraged to incorporate role-play into teaching.

**Summary of Results:** After the 'Teach the teachers' course, 100% of current FY1 doctors agreed or strongly agreed that they now felt confident in designing, organising and delivering the ATSP teaching session. After the local sessions, incoming FY1s: 92% felt the session was relevant to their learning needs, 83% were more confident about assessing and escalating patients during on-call shifts, 74% were more confident about accessing and utilising hospital guidelines during on-call shifts, 81% were more confident about receiving and providing a structured clinical handover during on-call shifts.

**Discussion and Conclusions:** Overall, the data shows that incoming FY1 doctors felt more confident in many areas pertinent to clinical practice after having the ATSP session compared to before. Furthermore, it suggests that after the 'teach the teachers' course, the current FY1s felt empowered to design, organise and deliver the sessions, which aides their further development also.

**Take-home Messages:** Near-peer led local teaching of a regionally implemented session entitled 'Asked to See Patient', delivered in induction week, can help improve the confidence of newly qualified doctors entering into professional practice in the UK.

## #5HH - Posters - Transition

### 5HH05 (3283)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A Scoping Review of Interventions to Support the Transition from Medical Student to Doctor

#### AUTHOR(S):

- Niamh Coakley, University College Cork, Ireland (Presenter)
- Anel Weise, University College Cork, Ireland
- Aislinn Joy, University College Cork, Ireland
- Helen Hynes, University College Cork, Ireland
- Paula OLeary, University College Cork, Ireland
- Deirdre Bennett, University College Cork, Ireland

#### ABSTRACT

**Background:** The transition to clinical practice is a challenging one for the newly graduated doctor. Graduates report feeling unprepared for some aspects of practice which can intensify the difficult nature of the transition. Supervisors and program directors similarly express concerns regarding deficiencies in certain competencies expected of new graduates. In addition to affecting the confidence and competence of medical graduates, lack of preparedness may also have patient safety implications, as evidenced by reports of the 'July effect' when new graduates commence practice. In response to this issue, focused interventions have been designed and implemented in an attempt to improve work readiness and ease the transition. We conducted a scoping review of the literature to determine the extent, range and nature of these interventions.

**Summary of Work:** Our review was informed by Arksey and O'Malley, and Levac's methodological framework. Using relevant terms we searched Medline, CINAHL, Embase, PsycINFO, SocINDEX and ERIC databases, handsearched key journals: Medical Education, Academic Medicine and Medical Teacher, and tracked citations, to identify empirical papers, in the English language, describing the implementation and/or evaluation of interventions explicitly designed to address preparedness for practice. Papers were screened by abstract and title, and then by full text using inclusion and exclusion criteria. Data was extracted to address the focus of the review.

**Summary of Results:** Using PRISMA guidelines, 5076 articles were identified following database searching, with an additional 93 articles by journal handsearching and citation tracking. This yielded 3648 articles when duplicates were removed. These articles were subject to title and abstract screening yielding 204 articles that were subject to full text review. 180 articles were finally selected for data extraction. Results will be presented to provide an overview of the breadth of the literature on discrete interventions that facilitate preparedness for clinical practice.

**Discussion and Conclusions:** This review will inform future research, practice and policy in the preparedness for practice and ease of transition of medical graduates commencing their first postgraduate year.

**Take-home Messages:** A 'preparedness gap' exists: this review will describe the breadth of current interventions in the literature that address this issue, informing future practice.



## #5HH - Posters - Transition

### 5HH06 (2388)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Bridging the Gap: Transition from Medical Student to Junior Doctor

#### AUTHOR(S):

- Ujjwal Prakash Khanal, Institute of Medicine, Tribhuvan University, Nepal (Presenter)
- Preeti Shakya, Chitwan Medical College Teaching Hospital, Nepal

#### ABSTRACT

**Background:** The transition from medical student to junior doctor- from supported learning to independent practice- is quite challenging with fresh graduates lacking both clinical skills and confidence. The extraordinary nature of the job in terms of clinical responsibilities, horrendous workloads and complexity all add to the challenge. This study sought to evaluate the main concerns and challenges of junior doctors during the transition from their role of students to that of a practicing doctor and what could be done to facilitate this transition.

**Summary of Work:** The junior doctors from Chitwan Medical College Teaching Hospital in Nepal were surveyed using a semi-structured questionnaire. The questionnaire contained items pertaining to their experiences, concerns during clinical practice and best approaches that they think would enhance the transition.

**Summary of Results:** A total of 62 junior doctors participated in the survey. The findings suggest that despite radical changes in the curriculum, most newly qualified doctors (65%) still found the transition challenging. Three key themes emerged from the analysis; the amount of clinical exposure during medical school, training prior commencing clinical practice and support during clinical tasks.

**Discussion and Conclusions:** This study has provided interesting insights into the experiences of newly qualified doctors and a lot can be learned by exploring their experiences. The predominant concern expressed by the participants was the management of critical cases (86%). While graduates felt prepared for basic clinical tasks such as history taking and physical examination, they reported a drop in self-confidence while prescribing medications and deducing differential diagnoses. A lack of adequate clinical exposure during medical school and poor support from the faculty during clinical work were sought to be the key contributing factors for this difficult transition.

**Take-home Messages:** Proper and adequate training prior to clinical work is highly valued during the demanding transition period. Workplace support and supervision, especially from senior colleagues, should be made available to junior doctors in especially situations where they are dealing with critical and complex cases. Medical schools need to ensure that students are provided with early exposure to clinical environments which allow meaningful contact with patients and increasing opportunities to act up as a role of junior doctor, even as students.

## #5HH - Posters - Transition

### 5HH07 (562)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Preparing Final Year Medical Students for the Wards through an Interactive Prescribing Workshop

#### AUTHOR(S):

- Claire Capper, Mid Yorkshire NHS Trust, UK (Presenter)

#### ABSTRACT

**Background:** Newly qualified doctors must be able to prescribe medications safely and be aware of common prescribing errors. The World Health Organisation guidelines state prescribing is best taught in a practical way. However, multiple studies have shown a gap in prescribing as part of medical education. Therefore, I set up a workshop for final year medical students, focusing on scenarios that they will be expected to independently manage as a foundation doctor.

**Summary of Work:** The aim of the session was to safely prescribe commonly used medications. The day workshop was designed for 12 final year students. They prescribe medications of their choice on hospital drug charts for different case studies, with direct feedback and teaching after each case. Realistic elements such as different weights, renal failure, allergies and interacting medications are included. The British National Formulary, local guidelines and relevant test results are available for each case. Learning is assessed through direct observation, feedback, and their confidence using a Likert scale.

**Summary of Results:** On a 5 point scale, students reported an average of 1.5 point increase in confidence across several prescribing domains: routine medications, acute medications, spotting errors and how comfortable they feel writing an in-patient prescription chart. Students enjoyed the balance between practical advice and theoretical knowledge for common scenarios that they will encounter as doctors.

**Discussion and Conclusions:** The increase in knowledge and confidence from a one day workshop demonstrates the importance of prioritising practical prescribing teaching in medical education. All the students said the session should be delivered to all final year students. This will help develop better doctors and improve patient safety.

**Take-home Messages:** Students are not very confident at prescribing as it is often poorly taught at medical school. It is best taught in small groups in a practical way to improve their confidence and prepare them for working on the wards. This also improves patient safety.

## #5HH - Posters - Transition

### 5HH08 (2283)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Final Year Examinations Versus Job Preparation: Introducing a Series of Sessions to Bridge the Gap

#### AUTHOR(S):

- Ariella Midgen, Watford General Hospital, UK (Presenter)

#### ABSTRACT

**Background:** The final year of medical school feels like a year of conflicting priorities: revising for examinations versus preparing to start work. It leaves students sacrificing important parts of their studies to focus on different assessments in turn. This is less efficient than a holistic approach and impacts how students engage with educational opportunities. In particular, students perceived their clinical placements as more useful for job preparation than for examinations ( $p=0.0114$ ) and reported being less likely to engage with their placements as examinations loomed closer.

**Summary of Work:** A series of classroom-based teaching sessions were devised and introduced to University College London medical students on their final year undergraduate placements at Watford General Hospital. Each session covered key theoretical knowledge within common hospital scenarios. The aim was to assess the course's efficacy at shifting participants' attitudes towards their clinical placements and at encouraging students to view their final examinations as part of job preparation rather than draining time away from it. This was assessed using pre- and post-course questionnaires.

**Summary of Results:** The sessions were positively received, and students reported feeling more prepared for their written examinations ( $p=0.0487$ ), OSCEs ( $p=0.0622$ ), and for beginning work ( $p=0.0504$ ). More importantly, following the sessions students were more likely to believe that revision and their future careers overlapped ( $p=0.0443$ ), and less likely to believe that their clinical placements were irrelevant until their examinations ended ( $p=0.1371$ ).

**Discussion and Conclusions:** The final year of medical school can feel like a tick-box exercise. It is tempting for students to focus on the most pressing priority at the time, rather than viewing educational opportunities and exams as tools to equip them for the future. However, preparing for examinations and preparing to start work are not mutually exclusive. Following this programme students shifted their perspectives on clinical opportunities and reported being more likely to engage with them as a result.

**Take-home Messages:** Bridging sessions could be a useful supplement to realign the aims of the final undergraduate year. There is no need for educational opportunities, examinations, and clinical experiences to be at odds with each other.

## #5HH - Posters - Transition

### 5HH09 (2732)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The effectiveness of orientation training for new nursing staff by flipped classroom teaching mode

#### AUTHOR(S):

- Jen-Yu Chi, National Cheng Kung University Hospital, Taiwan (Presenter)
- Wei-Fang Wang, National Cheng Kung University Hospital, Taiwan
- Yu-Ting Tien, National Cheng Kung University Hospital, Taiwan
- Chia-Jung Chen, National Cheng Kung University Hospital, Taiwan
- Yen-Ning Hsu, National Cheng Kung University Hospital, Taiwan

#### ABSTRACT

**Background:** The purpose of orientation training program is to serve new staffs to acquire the working skills and be familiar with the environment. However, the traditional method is based on one-way teaching which lacks of the feedback and the validation of the training results. Therefore, we have introduced the “flipped classroom teaching mode”, FCTM, in medical system to attract new nursing staff to learn actively and improve learning efficiency for their orientation training.

**Summary of Work:** To testify the FCTM. One group of new staff were trained by FCTM ; Others are by traditional method, as a control group. The course, common examinations for nursing, for FCTM group is separated into three steps: 1. Preview the courses including viewing the standard videos for nursing such as CT, MRI scan etc. 2. Group discussions during the courses at the classroom. 3. Group reports after the lessons. Interactive discussions between lecturers and learners. Nurses in the FCTM and control group will be examined at pre and post training program. Satisfaction of the both mode will be evaluated by the learners. The performance of both group will be evaluated after 3 month .

**Summary of Results:** The average grades of pre-test of the FCTM group is 80( $\pm$ 9.68), total is 100 points; the control group is 77.2( $\pm$ 12.62),  $p=0.216$ , no significant difference. After the training, the grades of the control group is 82.6( $\pm$ 13.37); the FCTM group is 95.2( $\pm$ 7.62),  $p<0.001$ . The grades of FCTM group is better than the control group. The satisfaction for teaching method of the FCTM and control group is 4.28( $\pm$ 0.52) and 4.91( $\pm$ 0.22),  $p<0.001$ . total is 5 points. Satisfaction of the clinical teachers to judge the performance of FCTM group is 4.07( $\pm$ 0.62) which is higher than the control group, 3.48( $\pm$ 0.57).

**Discussion and Conclusions:** Implementation of FCTM to the orientation training for the new staff has dramatic influence on their working performance and with better satisfaction from their mentors. FCTM training can achieve Kirkpatrick's Learning Evaluation Level 3: the knowledge are being used the workplace.

**Take-home Messages:** The FCTM method is considerable a good orientation training method.

## #5HH - Posters - Transition

### 5HH10 (189)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A multi-support approach: The role transition of newly graduated nurses during the first three months of preceptorship in Taiwan

#### AUTHOR(S):

- Hui-Ying Chiang, Chi Mei Medical Center/Southern Taiwan University of Technology, College of Humanities and Social Sciences, Taiwan (Presenter)
- Kai-Fang Chang, Chi Mei Medical Center, Taiwan
- Su-Ya Huang, Chi Mei Medical Center, Taiwan
- Ling Yeh, Chi Mei Medical Center, Taiwan

#### ABSTRACT

**Background:** Role transition is a challenging and stressful process for newly graduated nurses (NGNs). Between 20-30% of NGNs leave their jobs within the first 3 months of their nursing careers because of difficulties during role transition. Knowing that, the success of role transition is determined by an effective and supportive preceptorship resulting in high satisfaction from continued learning and smooth job adaptation among NGNs.

**Summary of Work:** A project of multiple support approaches was applied to NGNs who were new nurses during their first 3 months of employment in 2018. Supportive strategies included open-space-technology (OST) meetings with NGNs and their preceptors respectively, mentor-like consultations regarding interpersonal relationships, on-line E-portfolio networks and a skill-based orientation program. Through OST meetings, the preceptors learned to manage their stress in teaching such as handling role conflicts, and calming the fear of the NGNs' failures at work. In addition, the NGNs had opportunities for self-reflection, inner-strength exploration and peer-group support, which assisted their role adaptations. Second, the mentor-like visits facilitated interpersonal relationships and helped monitor the NGN's competence progress. Third, the NGNs could review their E-portfolios and preceptors' feedback on their mobile phones. Last, the orientation was programmed based on skill-based practices.

**Summary of Results:** In total, 109 new nurses and their preceptors participated in this project. By the end of 2018, 17 new nurses left their jobs. The turnover rate of 15.6% (2018) decreased from 24.1% in 2017. Moreover, the NGNs stated that their interpersonal communication, preceptor-preceptee relationships and role adaption were satisfactory.

**Discussion and Conclusions:** This project contributes to the understanding of NGNs' role transition and job retention at the novice stage. Through a bundle of supportive activities including peer-group discussions, mentor-like visits, on-line portfolios and skill-based orientation programs, NGNs are encouraged to continue learning and succeed in their role transitions.

**Take-home Messages:** For hospitals to pursue successful nurse retention, using multiple supports can assist new nurses to acclimate to their new roles. For nurse educators and administrators to facilitate role adaptation, developing effective strategies such as OST meetings, one-on-one preceptorships, competence-based orientations, mentorships of preceptors and preceptees, and on-line portfolios is recommended.



## #5HH - Posters - Transition

### 5HH11 (795)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A study on the Learning Attitudes, Learning Difficulties and Coping Strategies of New Nurses

#### AUTHOR(S):

- Su-Chen Kuo, Chi Mei Medical Center, Liouying, Taiwan (Presenter)

#### ABSTRACT

**Background:** When newly graduated nurses become nurses, they must learn much to adapt themselves to the complicated environment in this transition period. How to help them to learn better is our major concern. The purpose of this study is to comprehend the new nurses' learning attitudes, the difficulties they encounter, and coping strategies.

**Summary of Work:** We performed a cross-sectional. This study was conducted through a questionnaire survey according to a 5-point Likert scale in December of 2018. The data was collected from new nurses that were trained in the Two-Year Post Graduate Training Program of the Regional Teaching Hospital in Taiwan. A total of 145 of the 146 new nurses (99.3%) completed the survey. The measurement tools were adapted from relevant previous studies to meet the needs of the research and also interviews with five new nurses with an open question guide, including three sub-questionnaires, "attitude toward learning," "learning difficulties," and "coping strategies for learning."

**Summary of Results:** The conclusions of the study are as follows:

1. The attitudes toward learning for new nurses shows medium-high status, the dimension of teachers' teaching shows the highest one, but the dimension of learning habit shows the lowest one.
2. The learning difficulties of new nurses shows a medium-low status, how to learn to care about critical patients and emergency treatment shows the highest one.
3. The coping strategy adopted by new nurses shows positive behaviors, implying that positive coping strategies are used most, but negative ones are used less.
4. The relationship between learning attitudes, learning difficulties and coping strategies is close. Learning attitudes and learning difficulties have a negative correlation and positive correlation with learning strategy.

**Discussion and Conclusions:** When we plan new nursing training programs, how to improve their intensive care ability and increase their confidence is important. Preceptors must help new nurses create their positive learning attitudes, and then they will learn better.

**Take-home Messages:** If new nurses have a good attitude towards learning, they will adapt themselves well to the complicated clinical environment.

## #5HH - Posters - Transition

### 5HH12 (2537)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

## Developing a tailored induction programme for International Medical Graduates

### AUTHOR(S):

- Justin Poisson, Great Ormond Street Hospital for Children, UK (Presenter)
- Craig Knott, Great Ormond Street Hospital for Children, UK
- Emma Parish, Great Ormond Street Hospital for Children, UK
- Holly Boyd, Great Ormond Street Hospital for Children, UK
- Cheryl Hemingway, Great Ormond Street Hospital for Children, UK
- Sanjiv Sharma, Great Ormond Street Hospital for Children, UK

### ABSTRACT

**Background:** International Medical Graduates (IMGs) are defined as any doctor that has obtained their primary medical qualification outside of the UK. Over 50% of junior doctors at Great Ormond Street Hospital for Children (GOSH) fall into the IMG category. The Postgraduate Medical Education (PGME) Department at GOSH collected data to develop strategies to assist with the integrations of IMGs into the organisation. One of these strategies was to expand the induction programme; tailoring it toward the specific needs of IMGs.

**Summary of Work:** PGME designed an additional mandatory half-day induction programme aimed at IMG doctors that have not previously worked or lived in the UK. We used survey data to design a relevant programme of content, which includes: • Common abbreviations and nuanced language used in the clinical environment • An introduction to the NHS Structure and Funding • The role of the GMC in clinical practice and education • UK training pathways and equivalence • Organisational support for IMGs • Simulation training using the scenario of difficult venepuncture and phlebotomy with challenging conversations with families and staff around this procedure

**Summary of Results:** The number of attendees fluctuated on a monthly basis, in line with recruitment variation, ranging from 3-11. Attendees were given a pre and post induction survey to identify the country of initial medical training, assess their confidence in starting their placement and identify the difficulties of moving to the UK. Confidence to start the placement was scored out of 10, which rose from an average score of 6.0 prior to the programme to an average score of 8.0.

**Discussion and Conclusions:** Attendees felt that the session provided them with a useful introduction to the NHS and GOSH, and felt they were more confident to start their first placement in the UK as a result. They found the abbreviations and practical discussion of common problems and pitfalls most valuable.

**Take-home Messages:** Using data from surveys of IMG doctors to develop a tailored induction helps IMGs transition into the NHS.

## #5HH - Posters - Transition

### 5HH13 (668)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Transition to Foundation Year 2 - how can we better support trainees?

#### AUTHOR(S):

- Kirsty Brownlie, NHS (Severn Deanery), UK (Presenter)
- Clare Van Hamel, NHS (Severn Deanery), UK
- Katy Stevenson, Severn Deanery, UK

#### ABSTRACT

**Background:** In recent years, there has been a focus on supporting doctors transitioning to foundation year 1 (F1). However, our hypothesis was that there are other stressful stages during training; with the transition from F1 to F2 being one example of a significant step-up in responsibility. We wanted to understand whether this causes anxiety and stress for trainees, whether they feel that patient safety is affected, and what measures could be introduced to help improve the transition and improve patient safety.

**Summary of Work:** A detailed survey was distributed to all F2 doctors within Severn Deanery. It addressed how trainees felt during transition, the support provided to them before, during and afterwards, and what areas they felt could be improved in order for them to feel better supported. The data was analysed and discussed with deanery management, and several areas for improvement in support have been identified.

**Summary of Results:** Nearly 40% of F2 doctors reported feeling stressed by the transition from F1-F2, and 1 in 3 did not feel confident moving up to F2. Nearly 50% indicated that they plan to take time out of training after F2 due to stress, burnout or lack of work/life balance. Whilst many factors contribute to stress for trainees, our survey suggests that one area which could be improved is the transition from F1-2, which has perhaps previously been underestimated in terms of its role in trainee wellbeing. The survey flagged an important connection between trainee wellbeing and patient safety with 61% of respondents stating that patient care was affected during the transition.

**Discussion and Conclusions:** Ways of improving the transition process were identified, many of which are now being addressed by the deanery: 1. shadowing days 2. educational sessions about the roles of F2 doctors 3. greater appreciation for the difference between F2s and more experienced doctors on SHO rotas 4. avoidance of on-call shifts during the transition week 5. mentoring for foundation doctors.

**Take-home Messages:** The survey showed that the step-up to F2 is significant, and without appropriate support, trainees can experience stress and anxiety. Considering the possible impact on patient safety and retention of doctors, new ways to support trainees are critical.

## #5II - Posters - Game-based Learning

5II01 (239)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Impacts of contextual game-based learning on Nurse Practitioners learning performances in health assessment courses

#### AUTHOR(S):

- Chin-Sheng Lin, School of Medicine, National Defense Medical Center, Taiwan (Presenter)
- Hui-Chen Lin, Tri-service General Hospital National Defense Medical Center, Taiwan
- Gwo-Jen Hwang, Graduate Institute of Digital Learning and Education, National Taiwan University of Science and Tech, Taiwan
- Yaw-Don Hsu, Tri- Service General Hospital National Defense Medical Center, Taiwan
- Jiunn-Tay Lee, Tri- Service General Hospital National Defense Medical Center, Taipei, Taiwan

#### ABSTRACT

**Background:** It is important to foster nurse practitioners (NPs) health assessment and differential diagnosis competences. Previous studies indicated that the lack of could be the main reason affecting NPs' learning outcomes, which further affects their confidence of facing patients. The use of simulated contextual learning system could be an answer to this problem.

**Summary of Work:** In this study, a contextual game-based learning system for health assessment is developed for providing clinical practicing environment in gaming contexts by taking into account several learning objectives, such as medical history collection, physical assessment and differential diagnosis. In order to verify the effect of the proposed approach, a quasi-experiment was conducted. The experimental group learned with the contextual game, while the control group learned with the traditional instruction.

**Summary of Results:** The results showed that the experimental group significantly improved learning achievement, motivation, attitude and self-efficacy. Moreover, the satisfaction of the learning approach of the experimental group was significantly higher than the control group.

**Discussion and Conclusions:** In this study, we successfully used a contextual game-based learning approach in the health assessment course for nurse practitioners. The findings could be a good reference for researchers and teachers in medical and nursing education.

**Take-home Messages:** Situating learners in the context of practicing enables them to master the problem-solving procedure, which could help them improve the confidence to serve patients. Moreover, situating them in a game-based learning storyline, could decrease their learning anxiety and enhance their learning motivation. Thus, it is worth investigating the use of digital game-based approach in medical and nursing education.

## #5II - Posters - Game-based learning

5II02 (2270)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Neurophysiology Games in the Process of Education and Learning in Psychology: Perception of Students in the Living of Construction

#### AUTHOR(S):

- Carla Waldeck Santos, Faculdades Pequeno Príncipe, Brazil (Presenter)
- Rogério Saad Vaz, Faculdades Pequeno Príncipe, Brazil

#### ABSTRACT

**Background:** Neurophysiology games related to the teaching-learning process; describes the process of students neurolearning in game construction. The perspective of cognitive neuroscience and its contribution to education was used as a theoretical reference, reaching the principles of brain-based learning and the constructivist theories based on the authors Piaget, Vigostky and Ausubel.

**Summary of Work:** The purpose of this study was to analyze Psychology undergraduates in relation to perception and construction of Neurophysiology in the teaching-learning process; and support the strategy of building games for students as an active methodology strategy and to describe the students neurolearning process in the construction of games. The methodology chosen was a qualitative, with an exploratory and descriptive approach combined. The data were obtained through a semistructured interview with students of the 3rd and 7th period of Psychology that carried out this activity. For the analysis of the data, we used the Content Analysis proposed by Minayo. The students report on the strategy of teaching games construction is to be a different methodology, since it provides a way out of the routine of lectures, abstracts, theaters, seminars they are accustomed to develop; challenging; which assists in the understanding and application of the knowledge of Neurophysiology, since they need to review and deepen the knowledge and to relate the theory with the practice; enables the development of metacognition; personal valuation; the integration among students and the improvement of the interpersonal relationship.

**Summary of Results:** The results observed showed that this strategy allowed students to be active players throughout the game construction process, characterizing it as an active methodology, as well as contemplating the principles of brain-based learning. The students evoked executive functions for the elaboration of the games, essential functions in their professional life.

**Discussion and Conclusions:** This analysis clarified an intimate relationship between active methodologies and the principles of brain-based learning, as well as studies of cognitive neuroscience contribute to better targeting of the educational act.

**Take-home Messages:** The construction of games allows to work with different forms of learning and demonstrates to be an efficient methodology.



## #5II - Posters - Game-based learning

5II03 (1403)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Spreading Happiness for Medical Students with TV Game Shows Teaching Style: Facilitating Learning-by-Learner

#### AUTHOR(S):

- Sahattaya Niyamosot, Suranaree University of Technology, Thailand (Presenter)
- Kitirat Rattanathawornkiti, Suranaree University of Technology, Thailand

#### ABSTRACT

**Background:** For decades, the learning method was based on conventional lecture which was passive and teacher-centered process. Nowadays, new generation students have difference than previous generations. This study aims to introduce unconventional teaching style that inspired by popular Thai TV Game Shows was held for medical students to reduce academic stress and creative way to facilitate learning.

**Summary of Work:** Clinical radiology is taught as a pre-clinical class for 3rd year medical students at faculty of medicine, Suranaree University of Technology (SUT). All 91 students participated in this class “Basic of radiology in the reproductive system”. All students were divided into 5 groups (about 18 each). Each got selected Thai TV Game Show concepts from teacher were designed their own different show in the studio classroom, acting as 1-2 moderators (per group). In the class session, each group presented both game quizzes and academic questions, then answered. After that, the teacher summarized the core topic and made the feedback. All students did individual pre-and post-test and following completed the online questionnaires.

**Summary of Results:** 89 (97.8%) students completed the questionnaires. The majority of students thought that this class activity promote interests and engagement (excellent 43.8%, very good 37.1%), boost thinking creatively (excellent 46.1%, very good 34.8%), enjoy learning (excellent 56.2%, very good 28.1%) and enhanced knowledge after study (excellent 46.1%, very good 33.7%). Level of satisfaction revealed very satisfied (66.3%), satisfied (33.7%) and dissatisfied (0%). The average total score of individual pre-and post-test from all 91 students was significantly increased from 56.43 ±13.11 to 94.12 ±5.66 (p-value <0.001\*).

**Discussion and Conclusions:** Engage students in creating their own learning environments, then give them in establishing learning goals. By transferring classroom management to medical students for their direction, teacher and co-teachers become facilitators of learning. Group activity, interactive game show-based teaching style motivated students with active learning, to gain both happiness and knowledge.

**Take-home Messages:** Medical students are not only learner, sometimes they can be co-teachers.

Encouraging alternative form of self expression in the new generation students is one of the strategy for effective learning in the classroom.

## #511 - Posters - Game-based learning

51104 (588)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Team-Game-Tournament in new nurses' medication training program

#### AUTHOR(S):

- Pei-Hsuan Li, Chi Mei Medical Center, Liouying, Taiwan (Presenter)
- Yueh-Mei Wang, Chi Mei Medical Center, Liouying, Taiwan
- Su-Chen Kuo, Chi Mei Medical Center, Liouying, Taiwan

#### ABSTRACT

**Background:** Administering medicine to patients is a high priority, most demanding, stressful and responsible part of nursing work. How to training new nurses is important and challenging. We used traditional didactic teaching and skill demonstrated by teacher in the past. But we found out new nurses still confuse and wrong performance through this one way teaching process. When new nurses were nurse student, they practiced many times in clinical. We think don't repeat some content they learned before. Check backs their concept and skill correctly is more important. So we designed Team-Game-Tournament training program to teach new nurses.

**Summary of Work:** The training program use Team-Game-Tournament strategies. It were be implemented two times. There were 28 new nurses participate this program during July 2017 to August 2017. Four steps in this training program. 1. Give medication Standard Operating Procedure paper to new nurses before learning. 2. "What was wrong". New nurses were assigned to two groups. Then teacher played video which nurses give general and high risk medication to patients. New nurses discussed what was wrong in the video and wrote down on the board. 3. "Grab right." There were 6 IV bags in the desk. New nurses must grab right IV bag to teacher. 4. New nurses from two groups demonstrated medication skill and teacher clarify. Then, teacher checked everyone's skill with checklist. Finally, gave small gifts to the group won the game.

**Summary of Results:** We measure the effectiveness of training program. The cognitive test average score were improved 20.7 (72.5→93.6). This is higher than traditional teaching average scored 8.7 (72.7→81.3). They all pass medication skill test by teacher with checklist. New Nurses felt high learning satisfaction (100%) and had much positive feedback. They pointed out that this training program use Team-Game-Tournament strategies was better than others before. They said "Through Team-Game-Tournament, we have more positive interaction and improve medication knowledge and skill. We get more confident in this lesson before take care patients. We love this lively discussion.

**Discussion and Conclusions:** Team-Game-Tournament strategy may elevate new nurses' motivation and learning effectiveness. Teacher felt a sense of achievement and agree this change is worthy.

**Take-home Messages:** How to train our new nurses' effectiveness.

## #5II - Posters - Game-based learning

5II05 (1906)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Mixing Innovations: Incorporating educational technology into game-based learning

#### AUTHOR(S):

- Douglas Bovell, Weill Cornell Medicine in Qatar, Qatar (Presenter)
- Sean Holroyd, Weill Cornell Medicine in Qatar, Qatar
- Syed Latifi, Weill Cornell Medicine in Qatar, Qatar
- Mark Healy, Weill Cornell Medicine in Qatar, Qatar
- Jamie Gray, Weill Cornell Medicine in Qatar, Qatar

#### ABSTRACT

**Background:** Advocacy for the flipped classroom has been gaining momentum in the medical literature. Research shows that incorporating active learning techniques, such as gaming and educational technology, can improve student motivation and engagement. Both of which are key components to lifelong learning.

**Summary of Work:** We reported at AMEE 2018 on using a gamified review quiz during an undergraduate medical program Flipped Classroom event. This year we adapted the group review quiz, by incorporating online gaming technology. Quiz questions were loaded into an online quiz program that awarded points for correct answers. As a bonus, teams gained additional points by answering quickly. 'Team captains' of randomly assigned student groups, once logged-in online, via tablet etc, selected their teams answer choice by pressing the appropriate option. After each question, the correct answer and score for each group was published and totaled. This created a league table of points obtained for each team, with the winning team gathering the most points. As before, students were asked to complete an anonymous survey on the effectiveness of the activity to their learning and to rank other learning activities they found beneficial.

**Summary of Results:** About 90% of students (n=63) found quiz-gamification effective for delivering review-content and enhancing their engagement. Furthermore, it was found that the 2019-cohort (gaming technology-based) had a richer experience than the 2018-cohort (no gaming technology) as confirmed by the Mann-Whitney U tests ( $p < 0.05$ ). In addition, the 2019-cohort felt they most benefited from Gamification activities, while the 2018-cohort preferred Problem-based learning.

**Discussion and Conclusions:** The incorporation of gaming technology was reported by the students to be highly effective in enhancing their engagement and learning. In addition, many students commented that it was fun and very enjoyable. A comparison with the data from the previous year, demonstrates that the addition of technology brought about an overall increase in the level of engagement of the students and enhanced their learning. However, it should be noted that some students became disinterested in the activity when their team was not winning, leading reduced participation. Clearly, this is an important consideration for future activities.

**Take-home Messages:** Gaming technology can enhance the learning experience in a variety of different modalities.

## #5II - Posters - Game-based learning

5II06 (2162)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### StudzyBuddy: a novel game to facilitate Dermatology revision for final year Medical students

#### AUTHOR(S):

- David Cripps, South Warwickshire NHS Foundation Trust/The University of Warwick, UK (Presenter)
- Rachel Ventre, South Warwickshire NHS Foundation Trust/The University of Warwick, UK
- Cleone Pardoe, South Warwickshire NHS Foundation Trust/The University of Warwick, UK
- Josie Hough, South Warwickshire NHS Foundation Trust/The University of Warwick, UK
- Shabnam Singhal, South Warwickshire NHS Foundation Trust/The University of Warwick, UK

#### ABSTRACT

**Background:** Game-based learning is emerging as a rapidly developing area in medical education and this poster aims to demonstrate that game-based learning can be applied to dermatology. A board game, created by the authors, is presented as a novel approach to enhance learning in this challenging subject area. “StudzyBuddy: Define, Describe, Draw and Decide your way through Dermatology” is an interactive resource designed for final year medical students to improve confidence in dermatology, focusing on diagnosis, investigation, management, recognition and description of lesions with correct medical terminology.

**Summary of Work:** Initially, learning outcomes for the game were blueprinted against a British University Medical School Curriculum and content was developed by doctors with an interest in dermatology and education. A prototype of the game was then trialled with junior and senior medical educators for quality assurance and fine tuning. The focus of this poster is a trial of the aforementioned game with final year medical students. The students (n=66) attended a facilitated revision workshop featuring the StudzyBuddy board game. Quantitative and qualitative data on students confidence in various aspects of dermatology was collected before and after the session using Likert response questionnaires and open-ended questions.

**Summary of Results:** Likert responses showed an increase in mean confidence levels from pre-session to post-session across various aspects of dermatology: Diagnosis  $3.26 \pm 0.70$  to  $3.88 \pm 0.57$  ( $p < 0.001$ ), Investigation  $3.02 \pm 0.72$  to  $3.47 \pm 0.64$  ( $p < 0.001$ ), management  $3.25 \pm 0.72$  to  $3.52 \pm 0.61$  ( $p = 0.016$ ), recognition of dermatological lesions  $3.07 \pm 0.74$  to  $3.97 \pm 0.55$  ( $p < 0.001$ ), description of describing dermatological lesions  $2.98 \pm 0.86$  to  $3.82 \pm 0.58$  ( $p < 0.001$ ). Students agreed that game play achieved learning goals (80%), and was less stressful than traditional methods of teaching (89%). Qualitative themes included variation of topics and learning styles, knowledge application and enjoyment.

**Discussion and Conclusions:** This poster demonstrates how game based learning improved perceived confidence in dermatology in a group of final year medical students.

**Take-home Messages:** This poster presents a novel approach to learning dermatology and demonstrates how game based learning improved perceived confidence in dermatology in a group of final year medical students.

## #5II - Posters - Game-based learning

5II07 (881)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Combination of Game-based learning and Team-based learning for Improving Medical Knowledge and Self-Confidence in Patient Management

#### AUTHOR(S):

- Noosara Klumsombut, Ratchaburi Hospital Medical Education Center, Thailand (Presenter)

#### ABSTRACT

**Background:** Game-based learning are used in many spectrums. Game-based learning in medical education builds adaptive expertise through medical problem-solving, interaction and enthusiasm. We used mobile device application (Kahoot!) for our game platform and combined with team-based learning (TBL) for the 6th year medical students in pediatric nephrology clinic for improving in pediatric nephrology knowledge and self-confidence in patient management.

**Summary of Work:** We used TBL in pediatric nephrology clinic in 2014-2016 and changed to use this method in 2017-2018. Two weeks before class, all students had learned the objective of pediatric nephrology diseases by self-study. In class, groups of 2-3 students played Game of Pediatric Nephrology (Game of PeN) on their own mobile devices by using Kahoot! application. This game contained a series of multiple choice questions about common pediatric nephrology diseases. Students got immediate feedback on their answers by the teacher to assure their knowledge. Then they got an assignment to apply their knowledge to manage the patients in pediatric nephrology clinic under the teacher's supervision. Post-class questionnaires about self-confidence in pediatric nephrology knowledge and patient management were analyzed.

**Summary of Results:** Post-class questionnaires showed improvement in students' self-confidence in their pediatric nephrology knowledge from an average of 78% in post self-study to an average of 95% in post playing-game. Their confidences in management of pediatric nephrology patient were an average of 96%. Thus, all students appreciated this learning strategy and the group discussion.

**Discussion and Conclusions:** Game-based learning provided good attraction and enjoyable problem-solving game for students. In addition, they benefited from TBL through interactive group discussion for competent knowledge. Not only they improved in pediatric nephrology knowledge but also in self-confidence in patient management.

**Take-home Messages:** Combination of game-based learning and TBL obviously improves medical knowledge and students' self-confidence in patient management through their interactive discussion in problem-solving game.



## #5II - Posters - Game-based learning

5II08 (3343)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Building Blocks of Haematology: an observation-based research project exploring the use of LEGO® SERIOUS PLAY® within undergraduate medical education

#### AUTHOR(S):

- Isaac Chung, Weston Area Health Trust, UK (Presenter)
- Emily Booth, Weston Area Health Trust, UK
- Alexandra Martin, Weston Area Health Trust, UK

#### ABSTRACT

**Background:** LEGO® SERIOUS PLAY® methodology has been used and adopted within the business industry over the past decade, proving itself as an effective tool in motivating and improving performance. More recently, use of similar pedagogical concepts within medical education has shown to be effective in addressing the topics of professionalism and reflective practice in medical students (Thomson, 2018). The following project proposes that similar methodology can be incorporated into teaching important aspects of basic medical science and physiology. To highlight this, we have demonstrated the practical application of this through the use of LEGO® SERIOUS PLAY® in teaching undergraduate medical students about the coagulation cascade.

**Summary of Work:** Two groups of third-year medical students from the University of Bristol received a seminar on the coagulation cascade. Both groups were taught using conventional, lecture-based methods, whilst one group received additional teaching using LEGO® SERIOUS PLAY® to create a physical model of the cascade. Quantitative data was collected using pre- and post-test scores as part of their assessment of learning. This data was analysed to determine whether there was any difference in test scores. Those who received teaching using LEGO® also completed a questionnaire to evaluate the added value of the teaching method.

**Summary of Results:** The project is within its primary stages and full results will be available upon completion and presentation in August 2019.

**Discussion and Conclusions:** By not relying on conventional 'teacher-led' methods, the use of interactive and practical activities such as LEGO® allows all learners to participate actively. By creating physical models, complex and difficult concepts can be broken down into 'building blocks' that are more easily understood by students, drawing upon constructivist theories. Use of these activities also promotes creativity, problem-solving skills and encourages teamwork within learners.

**Take-home Messages:** LEGO® SERIOUS PLAY® methodology may have a role within undergraduate medical education. The use of LEGO® in teaching aspects of basic sciences and physiology enables all learners to participate actively, promotes problem-solving and team working skills, and may enable difficult concepts to be understood more easily. Further research must be done to consider its long-term impact on learning.

## #511 - Posters - Game-based learning

51109 (2720)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Using game based learning as a formative assessment tool in microbiology class

#### AUTHOR(S):

- Anirut Limtrakul, Faculty of Medicine, Srinakharinwirot University, Thailand (Presenter)
- Benjamas Wongsatayanon, Faculty of Medicine, Srinakharinwirot University, Thailand
- Chantana Mekseepalard, Faculty of Medicine, Srinakharinwirot University, Thailand
- Wanna Pumeechokchai, Faculty of Medicine Srinakharinwirot University, Thailand
- Kruawan Chotelersak, Faculty of Medicine, Srinakharinwirot University, Thailand
- Srisombat Puttikamonkul, Faculty of Medicine, Srinakharinwirot University, Thailand

#### ABSTRACT

**Background:** Studying microbiology is a tedious task for medical students as there are a lot of contents to be read and memorized. To ease students through this mind-numbing study, and also encouraging students to review the learning contents on the important pathogenic microorganisms, a game called “compose me” was developed to complement the learning experiences as a flipped-classroom activity and a formative assessment tool.

**Summary of Work:** The game was settled in a card game fashion, and was designed for 180 students to play together in each round. The students were assigned and advised to review all the class contents about the pathogenic microorganisms in intervals before the game day. In-classroom activities, all the students played the game in rounds. Each round began with each student blindly drew a characteristic card. The instructors stood to post the pathogen name cards. Once every student obtained the card, one had to seek the correct pathogen name matching to characteristic on the card and then gather around that pathogen name post. This was a time limited activity; the students who gathered in time at the pathogen name post with the most correct characteristic cards won double stars. At the end of each round, instructors summarized the correct characteristics of the pathogens. At the end of the class activity, student could freely combined their stars to match the numbers needed for prizes.

**Summary of Results:** Formative activity using the game on a whole class with almost 180 students was manageable. Most students loved the game and responded that they could recollect the important characteristics of the pathogens. The activities provided students the opportunity to joyfully rehearse recalling the class contents. However, some processes have to be improved to bring the students’ engagement through the end.

**Discussion and Conclusions:** The game engaged most of the students, and was quite formative, allowing the review of class contents more enjoyable. Although, big class game activity can be arranged, nevertheless small class activity would be easier to manage both in time and content summarisation efficiency.

**Take-home Messages:** A class loaded with tremendous knowledge contents can become enjoyable with the complementary game based learning.

## #511 - Posters - Game-based learning

51110 (1317)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Efficiency of BMB gamification for the 2nd Year Medical students of Phramongkutklao College of Medicine (PCM)

#### AUTHOR(S):

- Montalee Theeraapisakkun, Phramongkutklao College of Medicine, Thailand (Presenter)
- Thanakrit Vichasilp, Phramongkutklao College of Medicine
- Prakarn Rudeekulthamrong, Phramongkutklao College of Medicine
- Nattaprapa Suriyamontol, Phramongkutklao College of Medicine
- Unchalee Visawapoka, Phramongkutklao College of Medicine
- Alisa Sanamontre, Phramongkutklao College of Medicine

#### ABSTRACT

**Background:** The application of game elements and game techniques were successfully developed in the e-Learning using a Modular Object - Oriented Dynamic Learning Environment (Moodle) software in the Biochemistry and Molecular biology (BMB) course. It, as an innovative tool in medical education, was firstly used in PCM last academic year. This was found to improve medical student e-learning participation and engagement. Thus, the purposes of this research were to determine the efficiency of the BMB gamification, the effectiveness on achievement and the attitudes towards learning by BMB gamification.

**Summary of Work:** The BMB gamification was improved and studied by all 99 of the second year PCM medical students of academic year 2018. The BMB contents were comprised of biomolecules, metabolism and molecular genetics. The achievement test was used before and after the learning experience. Besides, the students should also do 3 tests during studying. The attitude towards the learning by BMB gamification was done. The data were collected and statistically analyzed by SPSS.

**Summary of Results:** The efficiency of the BMB gamification E1/E2 was 85.19/80.77 which was above set criterion 80/80. The students' learning achievement at posttest was significantly higher than at pretest at 0.001 level. The attitude towards the learning by BMB gamification was at the good to excellent level. The students pleased to collect eXperience Point (XP) during studying and the formative assessments were very incentive.

**Discussion and Conclusions:** The BMB gamification moodle was very effective and could develop the student's learning achievement. Most of the students strongly agreed that it was very suitable technology for teaching in modern time. They could learn at any time, any place and felt no stress. It made them eagerly learn further contents and tried to get the best score.

**Take-home Messages:** Gamification in e-learning can indirectly help learners improve their learning outcome by making them more participation in learning activity.

## #5II - Posters - Game-based learning

5II11 (949)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Fostering faculty engagement in a community of practice by means of collaborative gamification

#### AUTHOR(S):

- **Cristina Kroeff Schmitz Gibk, Universidade do Vale do Rio dos Sinos/UNISINOS, Brazil (Presenter)**
- Cristiane Maria Schnack, Universidade do Vale do Rio dos Sinos, Brazil
- Agnes D. Diemers, University Medical Center Groningen, Netherlands
- Marco Antonio de Carvalho-Filho, University Medical Center Groningen, the Netherlands/State University Campinas, Brazil

#### ABSTRACT

**Background:** Engagement is a basic requirement for the existence of a community of practice; collaboration, on its turn, is a basic skill for competent medical professionals in the 21st century. We hypothesized that collaborative gamification can be a strategy to reach both goals.

**Summary of Work:** We designed and implemented a blended faculty development course (VirtualVivo) in the Medical School of a Southern Brazilian private University. Collaborative gamification was used as a strategy to promote participants' engagement and foster identity development. The gamification strategy involved twenty-seven faculty members divided into three teams. The scoring system was developed to value collaboration. Teams scored points for accomplishing tasks such as exam item reviews, lesson plan sharing, or socializing in academic activities; however, a team could only win if scores were equalized. Hence, to keep scores balanced, participants had to engage "opponent" team peers in tasks by inviting them personally and posting the tasks in special forums online.

**Summary of Results:** The collaborative gamification strategy yielded identity strengthening and engagement, which was noticeable by observing participants online activities. The activity called "Challenge in pills", a forum which stimulated participants to socialize in academic events, registered twenty-six entries by twelve participants, who also invited peers to join in. The forum called "Refer to a GP" was an efficient tool to foster knowledge sharing: twenty-three team members produced fifty-two posts on exam item reviews. Finally, the forum called "Knowledge goes viral", focusing on the sharing of tested classroom activities, had a less significant but still existing participation.

**Discussion and Conclusions:** Collaborative gamification seems to enhance both engagement and collaboration. The devised strategy broke barriers amongst faculty and encouraged more judgment-free exchange of knowledge and experiences; it also rendered light-hearted moments of community identity building. Collaborative gamification is therefore a strategy to be further explored and more widely implemented for the potentially fruitful results it encompasses.

**Take-home Messages:** Collaborative gamification is a promising alternative to engage faculty with each other so as to strengthen community bonds and propel the community into constant development.

## #5II - Posters - Game-based learning

5II12 (64)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A comparison of learning outcome and student satisfactions in game based learning and lecture based learning

#### AUTHOR(S):

- Piyarat Rojsanga, Udonthani Medical Education Center, Udonthani Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Current learning focuses on the active learning activities that allow students to use the thought process to make their own knowledge. This study was conducted to evaluate the learning outcome and student's satisfaction in game-based learning (GBL) and lecture-based learning (LBL).

**Summary of Work:** GBL and LBL were used in teaching one topic for 4th and 5th-year medical students. About 2 weeks before attended, all students had pretest and then were assigned to self-study from website. At the class session of GBL group, the learning process was constructed with: 1st game; quiz: all the students answered the quiz in program "Kahoot" to find the highest score, 2nd game; matching game: the students were received the group of answers and then tried to match with proper situations, 3rd game; mysterious cases: the students were divided into 3-4 per group and received the mysterious case study to solve the problems and raced to answer the question to find the winning team. At the end of each game, the teacher summarized the core concept and made the feedback. Finally, all students had posttest and completed the questionnaires to evaluate the satisfaction. The learning outcome was evaluated by the difference between posttest and pretest scores.

**Summary of Results:** Fifty-nine students participated: 30 students in GBL and 29 students in LBL group. The learning outcomes were significantly improved in both groups. The posttest scores were not significantly different between both groups. The levels of satisfaction were significantly higher in the GBL group included encourage self-learning before attending class, increase student engagement, promote teamwork, improve problem-solving skill and retain knowledge.

**Discussion and Conclusions:** game-based learning encourages students to be active participants. The activities allow the students to put their knowledge to solve the problems and can gain a better understanding by making the discussion

**Take-home Messages:** Game-based learning is one of the effective active learning tools to improve knowledge gain, promote student engagement, develop critical thinking, and promote problem-solving skill.



## #5II - Posters - Game-based learning

5II13 (2418)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Balung Game Card (BGC) - A trigger to exchange ideas and display their own brand of creativity

#### AUTHOR(S):

- Phenny Pariury, Unika Soegijapranata, Indonesia (Presenter)
- Awal Prasetyo, Universitas Diponegoro, Indonesia

#### ABSTRACT

**Background:** In medical and healthcare field communication skill and collaborative work is an important modalities to obtain and improved. Gaming in groups is the most unthreatened way to express reasoning of players. Game card is the most common game that familiar to most of people and Balung Game Card (BGC) is already validated in content of clinical and basic osteology.

**Summary of Work:** The BGC's rules were introduced by tutorial video, and then participants were allowed to practice the game several times. In depth interviewed were conducted, the data were transcribed and coded by medical educator expert before and after BGC were introduced and played. Mini quiz by anatomy teacher were given to students after they played BGC. Responden were ten voluntary medical student from 1st and 3rd year, and ten fresh graduated medical doctor.

**Summary of Results:** From transcribed analysis we found that there is strong interaction and engagement between players (medical students and fresh graduated medical doctor). The content were supported for fresh graduated medical doctors to recall about their clinical osteology and transforming into clinical setting. By adding fresh graduated MD, 1st year and 3rd year students were motivated, since they can see the correlated basic osteology they had into clinical setting their seniors have encounter. In group they try to exchange idea in ways that every person can correlate and understand.

**Discussion and Conclusions:** Gaming in groups induces interaction, develop communication skill, and collaborative learning, sense of competing sportively. In gaming, people tend to be more focus, but less frustrating. BGC is a creative way to engage active learning with more fun way. Critical thinking, communication skill and collaborative learning all together in one activity. Its content is proven valid by expert opinion, and can be widely develop into other specific subject.

**Take-home Messages:** Every student have their own signature brand of creativity they need to communicate to others. In order to display their ways of reasoning. BGC can be a trigger to develop these skills.

## #5II - Posters - Game-based learning

5II14 (873)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Improving the learning outcomes and teaching satisfaction of nutrition interns through Game-Based Learning

#### AUTHOR(S):

- Ying-Ru Chen, Department of Nutrition, Chung Shan Medical University Hospital, Taiwan (Presenter)
- Hsing-Chun Lin, Department of Nutrition, Chung Shan Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** The professional knowledge courses of the nutrition interns were mostly traditional lectures in the past. It made the interns become passive learning which led them felt hard to pay attention in the class, and also make it difficult to memorize. Therefore, through Game-Based Learning (GBL), the course is more diversify and lively. By this way, interns could acquire knowledge and develop problem-solving skills. Our training of nutrition interns which in all of curriculums, the teaching and application of Enteral nutrition were the biggest gap between the school and the clinical, and interns were also lack of comprehension. Hence, I re-planned the course of Introduction and application of Tube feeding and combined it with the operation of practical skills.

**Summary of Work:** Original process: Traditional lecture. New process: Planning three games linked with learning includes: Tube feeding skills and precautions instructions, Introduction and application of commercial formulas and Common tube feeding complications and solutions.

**Summary of Results:** 1. The teaching satisfaction of the course "Introduction and application of Tube feeding" was 98.9%. 2. The pre- and post-test average scores of practice test increased from 48.8 points to 86.4 points.

**Discussion and Conclusions:** After the curriculum innovation, nutrition interns were more interesting in the content of the course, promoted learning effect and enhanced teacher-student interaction to enhance teaching satisfaction.

**Take-home Messages:** Introduction of GBL can increase interaction, effectiveness and fun, it should be extended to all curriculums.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ01 (593)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Comparison of Performance among Graduating Doctors Trained in Traditional & Integrated Curriculum

#### AUTHOR(S):

- Seyyedha Abbas, Foundation University Medical College, Islamabad, Pakistan (Presenter)

#### ABSTRACT

**Background:** Foundation University Medical College (FUMC) is among the few universities of Pakistan where Integrated Modular Teaching Program has been implemented. The study compared the performance of graduating doctors trained in traditional & integrated curriculum.

**Summary of Work:** We compared the final professional examination scores of Group A students with the Group B. The pattern, subjects, examiners & duration of the final examinations were same for both groups. Central tendency, mean and standard deviation were calculated, comparisons were made between the entry & final examination scores. In the end, theory and practical scores were compared using 't' test. A p value less than 0.05 were considered significant. The reliability and validity of the scores were also ensured.

**Summary of Results:** The overall performance of students who had undergone integrated curriculum (97.0%) was better compared to students who had undergone traditional curriculum (84.2%). Comparison between the different components of the exams using ANOVA test also showed improved performance of the same group of students with the p value less than 0.05. By using reliability analysis the Cronbach's alpha is 0.744 for the overall performance & 0.691 and 0.746 respectively for the theory and practical examination.

**Discussion and Conclusions:** This study provides the evidence that integrated curriculum has been proven to provide better and improved performances of students as compared to traditional curriculum. Results of this study may be used as guidelines for other national institutes and encourage them to move towards curricular reforms. The results of such studies must be disseminated to enhance the awareness and to facilitate the implementation of such programmes which can bring the positive change in the healthcare system.

**Take-home Messages:** To attain a standard, it is highly recommended that quality assurance cell be functioning at every medical school and policy makers should focus on quality assurance programs. It is also recommended that multicenter study be conducted involving the institutions where the integrated system is implemented to build an evidence base from which important medical school and workforce decisions can be made. As a future direction of the study the performance of these graduates in clinical settings/hospital settings can be evaluated to see the outcome of the programs.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

### 5JJ02 (479)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Implications for the design of an integrated pharmacy curriculum from a scoping review of integrated health professions curricula

#### AUTHOR(S):

- Aisling Kerr, RCSI Dublin, Ireland (Presenter)
- Hannah O'Connor, RCSI Dublin, Ireland
- Paul Gallagher, National University of Singapore, Singapore
- Teresa Pawlikowska, RCSI Dublin, Ireland
- Judith Strawbridge, RCSI Dublin, Ireland

#### ABSTRACT

**Background:** Integrated undergraduate health professions curricula aim to produce graduates who are prepared to meet current and future healthcare needs. Integration is advocated by pharmacy regulators as the perceived optimum way of preparing students for first registration as pharmacists. Integration can be described by model of integration; horizontal, vertical or spiral, themes for integration or by integrative teaching and learning approaches. Harden's integration ladder has been operationalised by The General Pharmaceutical Council as three levels: "fully", "partially" and "not integrated" curricula.

**Summary of Work:** This scoping review aimed to explore health professions education literature to inform the design of integrated pharmacy curricula. This review asks: what is meant by integration in health professions curricula? The Arksey and O'Malley scoping review framework was utilised. Ovid MEDLINE, EMBASE, Scopus, Web of Science and ERIC were searched for studies published up to May 2018. Research papers were eligible for inclusion if they described curriculum integration in undergraduate health professions curricula. Models of integration, themes for integration, teaching and learning approaches and level of integration were defined to support data extraction.

**Summary of Results:** 9345 studies were identified and 136 were included. 12.5% of included studies included a definition of integration. The majority of studies described horizontal integration (n=87). Various teaching and learning approaches were described, including experiential (n=43), case-based (n=42) and problem-based (n=38) learning. Systems-based teaching (n=56) was the most common theme reported. The majority of curricula were classified as "partially integrated" i.e. levels 5-7 on Harden's ladder (n=101). 81 studies reported perception outcomes. Only three studies reported outcomes beyond perception. Reported outcomes were mostly positive and included knowledge gains, increased appreciation of relevance, increased motivation and improved communication. Increased stress, difficulty understanding basic concepts and time constraints were also reported.

**Discussion and Conclusions:** Various themes for integration and integrative teaching and learning approaches are used. A lack of evidence for integration remains due to reliance on perception data.

**Take-home Messages:** There is a need for integration to be explicitly defined by curriculum developers and researchers. Attention should be given to model, theme, teaching and learning approach, level of integration and outcomes.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

### 5JJ03 (1180)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Microanalysis framework on learning effectiveness and satisfaction of organ system-based integrated curriculum in undergraduate medical education

#### AUTHOR(S):

- Bor-Ching Sheu, Center of Faculty Development, College of Medicine, National Taiwan University, Taiwan (Presenter)
- Yen-Hsuan Ni, Center of Faculty Development, National Taiwan University College of Medicine, Taiwan
- Yu-Jung Lin, Center of Faculty Development, National Taiwan University College of Medicine, Taiwan
- Wang-Huei Sheng, Center of Faculty Development, National Taiwan University College of Medicine, Taiwan
- Shan-Chwen Chang, National Taiwan University College of Medicine, Taiwan

#### ABSTRACT

**Background:** The curriculum integration group of National Taiwan University College of Medicine (NTUCM) have constructed organ system-based integrated curriculum (OSB-IC) of the undergraduate medical program since 1992. The aim of this study was to construct a micro-analysis framework for assessing the learning effectiveness and satisfaction of OSB-IC in an undergraduate medical curriculum.

**Summary of Work:** The NTUCM implements the integration of basic and clinical disciplines into a unitary unit that allows courses in the same organ system to be completed within a structured time framework of teaching coordination. A structured questionnaire of Likert-type statements for scaling was utilized to evaluate students' perceptions of the OSB-IC. Students were surveyed immediately after the session on their opinions about OSB-IC. Scores were analyzed to assess the curriculum reform in basic and pre-clinical teaching class. The distinct Likert elements of each lecture are micro-analyzed as interval-level summative scales data scales and then sorted out to individual basic and clinical disciplines.

**Summary of Results:** The mean questionnaire responding rate adjusted from each class number of students are all >90% in 2 semesters. The micro-analyzed data of structured questionnaire for rational assessment learning effectiveness and satisfaction are all preferably >4.2 in the mean in sorted basic and pre-clinical teaching classes of the categorized OSB-IC.

**Discussion and Conclusions:** Integration throughout the whole organ and functional system-based curriculum is time-consuming and hard work is required for planning, organization and execution. Organ-functional-based curriculum integration is a distinguished educational aim, which entails achieving cognitive, conceptual, and practical connections among the complex categories of unified basic and preclinical knowledge. The micro-analysis revealed that the OSB-IC curriculum was well accepted by the students as an effective enhancement to lecture-centered teaching programs. Our report applied a framework for monitoring the learning effectiveness of OSB-IC in an undergraduate medical curriculum.

**Take-home Messages:** The present study was an innovative trial that applied a microanalysis framework for assessing the learning effectiveness and satisfaction of OSB-IC in an undergraduate medical curriculum. The framework improved OSB-IC to the specific discipline of undergraduate medical education.



## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ04 (1963)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Identification of challenges faced during the implementation of an integrated curriculum

#### AUTHOR(S):

- Kinza Aslam, University of Lahore, Pakistan (Presenter)

#### ABSTRACT

**Background:** Society's changing health needs and innovations in education require that the curricula of dental schools be periodically revised and tailored to produce competent health care professionals. However, the implementation of a new curriculum poses certain challenges to teachers, which may range from content demarcation to assessment to teaching approaches. These challenges may delay and/or hinder the implementation of an integrated curriculum. Hence, this research was designed to identify the challenges faced by the faculty while implementing an integrated curriculum.

**Summary of Work:** 12 faculty members were interviewed based on a set of questions that were validated by experts. Interviews were conducted at the workplace (University of Lahore), during working hours and each interview lasted between 40-60 minutes. The interviews were audio taped to ensure no errors were made in transcribing. Member checking i.e. participant or respondent validation was done and the recordings were transcribed.

**Summary of Results:** The transcribed data was coded in the software Atlast Ti. Initially, 69 open codes were formed. These codes were then grouped on the basis of similarity and 39 codes were formed. At the end 16 codes were formed which were then grouped under the following 6 themes : working environment, distribution of workload, communication, faculty development and retention, evaluation and leadership.

**Discussion and Conclusions:** While it is agreed that integration is the only way forward, it has also been documented that implementing an integrated curriculum comes with its own set of challenges. These challenges may delay and/or hinder the implementation of new and innovative curricula.

**Take-home Messages:** Most of the challenges faced by faculty while implementing innovative curricula are common across different professions, across the world. If these challenges are anticipated in advance, and corrective measures are taken on time, the process of implementation can become less stressful for both the faculty and administration. The only way to anticipate these challenges in advance is by strengthening the developmental phase of a new curriculum.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

### 5JJ05 (632)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Integrating Engineering into the Medical Curriculum

#### AUTHOR(S):

- Judith Rowen, Carle Illinois College of Medicine, USA (Presenter)
- William Pluta, Carle Illinois College of Medicine, USA
- Jenny Amos, Carle Illinois College of Medicine, USA
- Brian Aldridge, University of Illinois College of Veterinary Medicine, USA

#### ABSTRACT

**Background:** The Carle Illinois College of Medicine is a new US, 4-year school which aims to produce physician innovators who will impact health through systems thinking and applied design. To this end, engineering concepts and practice are integrated throughout the curriculum in a trans-disciplinary manner (Harden, 2000). We believe our experience provides guidance and best practices for integrating “theme” topics into curricula.

**Summary of Work:** Our integration of engineering is guided by ten principles: 1. Articulate a clear mission. Ours is: “We educate exceptional physician-innovators to deliver high-value, compassionate health care through transformative solutions developed at the intersection of engineering, science and medicine.” 2. Articulate clear design principles. Ours include “engineering is integrated, not spackled.” 3. Specify competencies. Engineering competencies appear alongside basic science and clinical. 4. Select instructional approaches that foster effective integration. We chose problem-based learning for our preclinical pedagogy; facilitator guides include engineering prompts. 5. Integration should extend across the curriculum. Engineering activities span all four years. 6. Thematic objectives should be assessed throughout. 7. Content experts need to be engaged early and often. Engineering faculty are integrated throughout our structure. 8. Provide adequate resources, from curricular time to personnel. 9. Adapt recruitment methods to the curriculum. 10. Do not neglect the rest.

**Summary of Results:** Our first class of 32 entered in 2018; they are acquiring basic science and clinical knowledge as expected; performance on quizzes and progress tests has been on par with national results; scores on engineering assessments mirror performance on the medicine content. Students are demonstrating clinical skills development through OSCEs and preceptor feedback.

**Discussion and Conclusions:** We have identified two challenges. First, difficulty delivering the engineering content at the appropriate level for all learners. We are trying new approaches, and will offer some targeted “boot camp” orientation experiences. Second, recognition that our engineering competencies are too broad; we are detailing this framework more carefully in an iterative approach to curricular development.

**Take-home Messages:** Our successful integration of engineering into a medical school curriculum provides useful lessons learned for other schools planning to enhance curricula with engineering or other “theme” topics important to their mission.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

### 5JJ06 (54)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A Review of International Nursing-related Vocational and Educational Training on the Issue of Integrated Teaching

#### AUTHOR(S):

- Maria Christidis, The Swedish Red Cross University College, Sweden (Presenter)

#### ABSTRACT

**Background:** The review focus was to systematize, describe and critically analyze previous international research on school-based integrated teaching for vocational knowing in nursing-related education in upper secondary and higher-level education. The review questions were: a) What kind of integration was conducted within a school context in nursing-related education? b) What in terms of vocational knowing was highlighted as a result in the studies through integrated teaching? c) What was the relation between study aim and analytical method for the vocational knowing that was highlighted?

**Summary of Work:** Searches were conducted in two databases, EbscoHost, and ProQuest Social Sciences. Search terms 'integrated teaching', 'vocational knowing' and 'nursing', retrieved from the databases, were combined with "AND". Search area was expanded by terms 'education', 'curriculum', 'vocational', and specified with 'thematical integration'. Delimitations comprised admitted approaches of integration (Case Method, Problem-based Learning), and were set to scholarly, peer-reviewed articles. The first sorting comprised assessment of abstracts, while the second sorting comprised whole articles. Reference-lists of included studies were assessed for inclusion. Altogether, 14 studies were included and assessed for quality and coherence with Grade CerQual.

**Summary of Results:** The results showed three types of integrated teaching, integration through embeddedness or streaks, problem-based learning, and between school and workplace; vocational knowing related to a professional and academic context; and there was a methodological significance for the type of vocational knowing highlighted in the studies.

**Discussion and Conclusions:** Integrated teaching with professional connection was stressed as significant for vocational knowing, because of authenticity and meaningfulness. Vocational knowing of academic character required a professional contextualization for meaningfulness. The primary studies highlighted quantitative methodology as quality measure and bypassed epistemological (constructivism and positivism) aspects. A quantitative method of approach was shown as the quality measure in primary studies. The notion of quality requires expansion with more qualitative studies, that focus on minor student groups and specific didactic situations for an in-depth understanding of integrated teaching and vocational knowing in nursing.

**Take-home Messages:** Integrated teaching is an admitted didactical approach but highly significant for vocational knowing.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ07 (1284)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Reimagining electives in the clerkship year - a focus on career exploration and integration

#### AUTHOR(S):

- Patricia Cornett, University of California, San Francisco, USA (Presenter)
- Sarah Goglin, University of California, San Francisco, USA
- Leslie Sheu, University of California, San Francisco, USA
- Sara Clemons, University of California, San Francisco, USA

#### ABSTRACT

**Background:** Medical students traditionally explore different specialties through core clerkships and electives. Electives usually occur in the fourth year and thus have a limited role in helping students make decisions about specialties as they often occur after the residency application deadline in the USA. Elective career exploration in the clerkship year allows medical students to have more opportunities to explore specialties at earlier time points.

**Summary of Work:** In the context of major curricular redesign at the University of California San Francisco (UCSF), faculty designed 65 clinical electives across departments during the clerkship year called Clinical Immersive Experiences (CIExes). CIExes were categorized into 4 groups: apprenticeship, clinical skills building, integrative, or subspecialty. All students enrolled in three 2-week CIExes over the course of the year.

**Summary of Results:** Students completed 426 CIExes in the first year (January to December 2018). Enrollment reflected the distribution of the types of CIExes offered. The majority of students (69%) chose to enroll in a mix of different CIEx types. They made their decisions about CIEx choice to explore a specific career (75%), to acquire new skills or knowledge (22%), to learn about a specialty they had limited exposure to (18%), and/or to prepare for an upcoming clerkship (6%). Students rated their CIExes highly (4.48/5, SD 0.7). In open-ended comments students valued the opportunities for career exploration, particularly in specialties in which they had limited clinical exposure, and opportunities to acquire skills and knowledge, regardless of CIEx type.

**Discussion and Conclusions:** Students found CIExes in the clerkship year to be valuable to their learning and career exploration. They appreciated the diversity of options and the flexibility within each CIEx to focus on their learning goals. Next steps include understanding the impact CIExes have on students' fourth year elective choices, residency decisions, and overall professional identity formation.

**Take-home Messages:** Electives in the clerkship year provide career exploration opportunities for students prior to finalizing specialty choice, dedicated time to focus on skill building and competency development in a low-stakes environment, and the ability to experience a clinical topic from the viewpoint of multiple specialties.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ08 (1506)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Factors affecting fifth year medical students' selection of elective subject in medical school

#### AUTHOR(S):

- Chonthicha Chawachart, MEC Phayao University, Thailand (Presenter)
- Anon Panyoyai, Medical Education Center Phayao Hospital, Thailand
- Kanokrot Kovjiriyapan, Medical Education Center Phayao Hospital, Thailand

#### ABSTRACT

**Background:** An elective subject was admitted to encouraging a positive perception of medical students in knowledge improvement, skill mastery, and professionalism. There are many different factors that affect the decision of medical student in choosing the elective subject. Knowing what factors can lead to a better syllabus arrangement that suits learner requirement and promote student engagement as student-centered learning.

**Summary of Work:** There are two elective subjects in fifth-year medical students curriculum at MEC Phayao hospital that the students have to choose themselves. After finished fifth year curriculum, all students were asked to fill in questionnaire about motivation in choosing each elective subject and satisfaction after finished program. 31 fifth year medical students, studied in 2014 - 2017, were included in this study.

**Summary of Results:** Personal factors took an important role in selection of elective subject in fifth-year medical students (75.4%). Learning environment (59.68%) and syllabus arrangement (26.89%) was also influencing medical students in the selection of elective subject. Moreover, peers (12.1%) and other factors (31.45%) such as facilities, accommodations, and distance were included in factors that medical student concerned when choosing the elective subject.

**Discussion and Conclusions:** Passion to learn is strong internal motivation for medical students to study and practice in medical school. Plenty of medical students desired to know or practice more than curriculum requirement and expected themselves to be a good doctor. This attention makes personal factor a major motive for elective subject selection. Positive attitude towards the subjects attracts students to learn. A good impression in teachers as the role model and low-pressure learning environment motivated medical students to pick out those elective subjects. Design of programs that lower than students expectation can be fulfilled by elective subject. In conclusion, personal factors and learning environment take the major role for medical students selection of elective subject in medical school.

**Take-home Messages:** Passion to learn and a positive attitude are a strong motivation for medical students learning.



## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ09 (2471)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Why did medical students choose Family Medicine elective?

#### AUTHOR(S):

- Siriluk Pongchitsiri, Buddhasothorn Hospital Medical Education Center, Thailand (Presenter)

#### ABSTRACT

**Background:** Elective rotation of Buddhasothorn hospital Medical Education Center(BMEC) spend around 2 week for fifth year and 4 week for sixth medical students. It wasnt associated with residency matching, but depend on their needs and interest to increased knowledge or experience in the particular clinical medicine. Family medicine was not a preferred specialty career choice for medical students in Thailand, so the aim of this study was to discover the reasons why did medical students chose Family Medicine elective.

**Summary of Work:** This is a qualitative research, group discussion at first met period about 30 minutes, 2-5 students per group. Topic covered the reasons that they intentionally chose Family Medicine elective, the let them freely discussed and shared. Totally 28 students between academic year 2011-2017, 17 students were fifth year and 15 students were sixth year(4 students chose elective both year). The majority was female(20)

**Summary of Results:** No being on duty after hour, had more time, to explored what family medicine entailed, most likely among elective options among BMEC choice, increased clinical skill at OPD, came together with close friend/lover and no ward round were the reasons why they selected family medicine elective, respectively. Only 3 students inquired about content and activity before choosing. 11 from 28 students whos elective became Family Medicine training. Overall during year 2011-2016, there were 19 from 150 medical students(12.57%) studied Family Medicine residency program.

**Discussion and Conclusions:** Medical students who chose Family Medicine elective showed no extra duty hour, had more time and to explored themselves as they wanted to be a Family doctor were the most reasons. About only 40% of elective, they became a Family Medicine residency training.

**Take-home Messages:** One reason that lack of knowledge about what Family Medicine entailed, so medical curriculum might consider early exposure included several activities which help them have decided to be a Family doctor.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ10 (1955)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Moderation of assessment in a Student Selected Component context

#### AUTHOR(S):

- Camille Huser, University of Glasgow, UK (Presenter)
- Leah Marks, University of Glasgow, UK
- Joanne Burke, University of Glasgow, UK

#### ABSTRACT

**Background:** At the University of Glasgow, Student Selected Components (SSCs) involve a wide range of supervisors and modalities of assessment, with over 800 students undertaking SSCs each year, involving more than 200 supervisors from a wide range of specialties. A key aim of the SSC programme is to provide a variety of options for students, while attempting to ensure assessment consistency and fairness of grades across SSCs. To this end, a pilot and subsequent formal implementation of a moderation process was undertaken.

**Summary of Work:** A moderation programme was piloted, then fully implemented across all SSCs. Supervisors of SSCs accounting for 10% of students were randomly selected for moderation. All written work for the selected SSCs was blindly double marked by a member of the SSC team, with knowledge of a wide range of SSCs. Grades were compared with those of supervisors, and discrepancies were discussed until a final grade was agreed.

**Summary of Results:** The vast majority of grades of supervisors and moderators matched. This provided evidence that overall, grades for the written work of SSCs is already largely consistent across a variety of modules. When differences did exist then a mutual agreement was reached.

**Discussion and Conclusions:** Introduction of moderation was regarded positively by supervisors, students and external examiners. While grades tended to be higher in SSCs than in other MBChB components, this is likely to be due to factors including student choice, close supervision and the ability to spend 5 weeks studying a subject intensively. The moderation process has highlighted the varying levels of feedback given and thus has led to the introduction of measures to improve the quality of feedback.

**Take-home Messages:** (1) It is possible to ensure consistency of assessment in an SSC context without needing to standardise the assessment instruments; (2) Piloting the moderation process allowed supervisors and moderators to become familiar with the procedures before full implementation, as well as giving the SSC team time to develop a formal moderation policy, covering procedure to follow in all events; (3) Communication with supervisors and students was key in the success of this moderation process.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ11 (2080)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Elective: Enhancing practice in the University of Algarve medical curriculum

#### AUTHOR(S):

- Sofia Nunes, University of Algarve, Portugal (Presenter)
- Ana Marreiros, University of Algarve, Portugal
- Ricardo Afonso, University of Algarve, Portugal
- Isabel Palmeirim, University of Algarve, Portugal
- Pedro Catelo Branco, University of Algarve, Portugal
- Rosário Añon, University of Algarve, Portugal

#### ABSTRACT

**Background:** Elective is a curricular unit with an 8-week clinical training, in a specialty of choice, taking place preferably outside the region and the country. It aims to promote students ability to change and adapt to other professional and social realities with the opportunity to deepen their knowledge and confront themselves with what might be their potential future professional choice.

**Summary of Work:** The main objective of this study was to perceive the main preferences regarding the location and specialties of Elective students. A statistical descriptive analysis of the internships carried out between 2012 and 2018 and a comparative study between national and international preferences of the students has been made.

**Summary of Results:** 432 clinical internships carried out by 243 medical students under the Elective curricular unit, with a median of 2 internships per student. The majority of students (54%) chosen to carry out international internship, distributed across the five continents, being Brazil (13%) the first choice followed by UK (11%). 46% of the students choose to undertake, at least, half of their internships in Portugal. Half of the internships were in tertiary or university hospitals and 41% of the students chose specialties that are not part of the official course curriculum. The most requested specialties were General Surgery (9.3%), General Practice (8.1%), Anesthesiology (7.4%) and Emergency (6.6%). The bottom were Rheumatology/ Ophthalmology/ Urology with 0.2% each.

**Discussion and Conclusions:** The statistical analysis has showed that Elective students prefer to carry out an international internship, selecting Brazil as first option. Also when it's time to choose the specialty, students prefer to do the internships in a specialty integrated in their Medical Course Curriculum.

**Take-home Messages:** Electives enable students to acquire and develop new professional and personal competences in a clinical environment of their preference.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ12 (1217)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Integrating Undergraduate Medical Electives into the Medical College Curriculum at King Saud University

#### AUTHOR(S):

- Elizabeth Feeley, King Saud University, College of Medicine, Saudi Arabia (Presenter)

#### ABSTRACT

**Background:** In the 2012-2013 academic year, King Saud University, College of Medicine's new curriculum introduced undergraduate medical electives. This program provided students with a structured opportunity to investigate personal interests, develop professionalism, and facilitated both horizontal and vertical integration. All students did their elective during the same time period, at the end of the academic year, allowing for greater uniformity of preparedness. Many faculty expressed doubts about the feasibility of the program. Previously, electives were only offered during the internship year, and at different times. This study examines the development, implementation and progression of this seven-year old program at King Saud University, College of Medicine, Riyadh, Saudi Arabia. In addition, the electives unit had an advisory committee comprised of senior faculty. Evaluation forms for both students and physicians were developed, evaluated by the committee, and further validated. Students received a pass/fail grade. Quantitative data were analysed using SPSS and changes to the program were made, where feasible, utilizing principles of action research.

**Summary of Work:** Using online forms, developed after extensive interviews, students were allocated to the respective departments within selected institutions. Department leaders and administrators were met with before and during the electives. Remedial actions were taken when necessary.

**Summary of Results:** The Unit has placed all students to-date; most in their first choice of discipline. Less than 2% failed. Many faculty have changed from skeptics to enthusiasts with ongoing discussions on how to modify and improve the program.

**Discussion and Conclusions:** Including electives earlier allows students to better assess their strengths, weaknesses and preferences. It also addresses practical issues, such as time management, at an earlier stage, leading to less harm for the students. Faculty support has dramatically improved over the years. Each department now includes an electives coordinator who plans for the elective and communicates directly with the electives unit, facilitating better oversight and experience for both students and faculty.

**Take-home Messages:** More pre-elective materials need to be developed for both students and faculty allowing for better communication of expectations between students and faculty.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ13 (3145)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### An Elective Course in The 1000 First Days Of Life

#### AUTHOR(S):

- **Diani Puspa Wijaya, Faculty of Medicine Islamic University of Indonesia, Indonesia (Presenter)**
- Edi Fitriyanto, Faculty of Medicine Islamic University of Indonesia, Indonesia
- Miranti Dewi Pramaningtyas, Faculty of Medicine Islamic University of Indonesia, Indonesia
- Ukhti Jamil Rustiasari, Faculty of Medicine Islamic University of Indonesia, Indonesia
- Tien Budi Febriani, Faculty of Medicine Islamic University of Indonesia, Indonesia

#### ABSTRACT

**Background:** The first 1000 days are considered to have a crucial effect on the growth and development of children. Health workers, including doctors, should have sufficient knowledge and skills to manage health and nutrition appropriately in this period so that they can support the improvement of the quality of human resources. The development of the first 1000 days of life elective block is expected to provide crucial clinical knowledge and skills related to health and nutrition management in the early 1000 days of life for medical students.

**Summary of Work:** To improve clinical knowledge and skills related to health management in the early 1000 days of life, we developed an elective course for final year students. We designed this block into four modules (the basics of the first 1000 days of life, prenatal period, first six months period and first two years period). The contents in the module developed into learning goals that disseminated in tutorials, lectures and clinical skills practices. The assessment to evaluate student achievement conducted in the form of written examinations, assignments and clinical skill practice examination. Evaluation with standardized evaluation forms performed at the end of the block.

**Summary of Results:** Written examinations conducted to evaluate student knowledge about the first 1000 days of life. The OSCE exam was conducted to assess the ability of students clinical skill on the topic of breastfeeding counseling, counseling for complementary feeding and breastfeeding techniques. The evaluation found that students felt they had increased their knowledge about the first 1000 days of life. Students hope to have the opportunity to do better exercise in breastfeeding counseling directly with patients and practice in making complementary foods.

**Discussion and Conclusions:** Participation in the elective course the first 1000 days of life resulted in a greater student understanding of the early 1000 days of life and students feeling more capable of assessing and managing health practice related to the 1000 first days of life.

**Take-home Messages:** The first 1000 days of life elective block has emphasized the knowledge and clinical skill practice of our medical students and developed their commitment to promoting better health management during the early 100 days of life.



## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ14 (3014)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Impact of Overseas Clinical Elective on clinical practice: Perception of the Clinicians and Students

#### AUTHOR(S):

- Thomas Y.B. Lau, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Rachel W.C. Lai, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong
- Vincent C.T. Mok, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** In both Asian and European medical schools, overseas clinical electives are often compulsory in the medical curriculum where medical students self-organise the learning experience. Previous research on benefits of overseas electives often solely enquires from students' perspective before and upon completion. Long-term impact on clinical practice is uncertain. We seek to understand the factors on determining the outcome sustainability on future clinical practice.

**Summary of Work:** To assess the subjective and objective factors, a qualitative and quantitative approach is employed. In the study, we identified 6 licenced medical practitioners with more than 1 year of clinical practice and arranged semi-structured focus group with survey in Prince of Wales Hospital, Hong Kong. We then conducted focus group discussions with 14 medical students with the purpose to investigate any contrast and disagreement on perceived outcome on their future clinical practice. All interviews were recorded, transcribed and analysed. Keywords from each conversation is identified, then categorized in parallel with further data collection.

**Summary of Results:** Common themes were conceptualised. With heterogeneous degree of agreement, clinicians endorsed improved judgement based on clinical findings. Degree of impact was obvious only when given a personalised mentorship (in contrast to attachment to a general facility), adequate prior medical knowledge, and active participation in clinical scenario (in contrast to bare observation). Interestingly, despite general satisfaction, students returnees were uncertain on any isolated effect on future clinical practice, acknowledging variable hospital environment at their home institution and aboard. Meanwhile, both groups identified individual and institutional preparedness as contributing factors towards long-term impact. While self-identifying precise learning objectives could direct students' focus on relevant topics in match with their curriculum, formal mentorship could strengthen the bond between the student and the medical team, provide feedback and inculcate a sense of responsibility in the students.

**Discussion and Conclusions:** Lack of individual and institutional preparedness often undermine the effectiveness of an overseas clinical elective. A structured mentorship programme at the host institution and clear learning outcomes from home institution should improve the sustainable impacts on future clinical practice.

**Take-home Messages:** Students should carefully weigh the benefits and costs associated to clinical electives, and efforts should be made to ensure the effectiveness of electives.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ15 (1848)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A Reflection on My Development as a Junior Doctor Entering the World of Qualitative Medical Education Research

#### AUTHOR(S):

- Laura Bennett, Medical Education Department, Avon and Wiltshire Mental Health Partnership, NHS, UK (Presenter)
- Abby Sabey, CLAHRC West, UK
- Harriet Greenstone, AWP NHS, UK
- Kate Seddon, AWP NHS, UK
- Elizabeth Anderson, Kings College London, UK
- Stephen Arnott, AWP NHS, UK

#### ABSTRACT

**Background:** As a junior psychiatrist, my training has centred around quantitative methods where ‘gold standard’ evidence is a systematic review of double-blinded RCTs. During my recent training I have been able to expand my understanding of the qualitative, interpretivist paradigm and have gained insight into how rigorous methodology and ethical consideration can develop excellent, valid qualitative research.

**Summary of Work:** In 2015 I completed a one year Severn Deanery ‘Educational Fellowship’, incorporating one research session a week and attendance at the Bristol University ‘Research Methods’ module (TLHP Certificate). I drafted a proposal: “Qualitative study: Have Foundation Doctors found that their rotation in psychiatry has affected their development as doctors? In what way?”. As a current ‘Senior Clinical Teaching Fellow’ I have regular supervision with a qualitative researcher, joined a learning set and I am recruiting for semi-structured recorded interviews to analyse and develop themes.

**Summary of Results:** This process has presented multiple learning opportunities which I have had to actively note and reflect on throughout, identifying solutions and addressing any practical and ethical consequences (Mason, 2006). Through supervision and using a reflective research diary, I have engaged in this process to develop my research skills and broaden my understanding of research paradigms. For example, I found that my purposive recruitment strategy, which had resulted in quickly recruiting 10 interviewees in 2016, was far less productive in 2018, indicating an interesting shift in the environment in which these doctors are working. I have needed to look at the reasons for this and pragmatically but thoughtfully adapt my strategy.

**Discussion and Conclusions:** This process, and reflecting on it, has enabled me to develop skills and attitudes as a researcher, a doctor and an educator. I have learnt to be flexible in my research practice, while adhering to rigorous methodology. I have a clearer, broader view of research, allowing me to both practice and read research in a newly thorough but open minded manner.

**Take-home Messages:** Junior doctors can benefit professionally by conducting qualitative research. Medical educators could consider earlier teaching in qualitative methods, to cultivate an ethos of broader research methods.

## #5JJ Posters - Curriculum: Strategies/Medical Education Research

5JJ16 (2426)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Cultural Adaptation of Maslach Burnout Inventory in Russian and Kazakh languages

#### AUTHOR(S):

- **Alessandra Clementi, Nazarbayev University School of Medicine, Kazakhstan (Presenter)**
- Sabina Mustafina, Nazarbayev University School of Medicine, Kazakhstan
- Valentina Stolyarova, Nazarbayev University School of Medicine, Kazakhstan
- Raushan Alibekova, Nazarbayev University School of Medicine, Kazakhstan

#### ABSTRACT

**Background:** Burnout syndrome is job-related emotional stress that affects workers in human services including healthcare jobs. Maslach Burnout Inventory adapted for medical personnel (MBI-HSS-MP), is one of the most internationally recognized tools to evaluate burnout. This survey aim is to detect the prevalence of burnout among clinical doctors in Astana, Kazakhstan, in the Central Asia region.

**Summary of Work:** Present research is about the process of translation, cultural adaptation and validation of MBI for Medical Personnel (MBI-HSS (MP)) in Russian and Kazakh languages, in fact Kazakhstan is officially bilingual country. The questionnaire consists of 22 statements graded by participants that contain positive or negative emotions associated with job. The questionnaire was not yet officially validated in Russian and Kazakh languages. The work of adaptation of MBI to Kazakhstani participants was conducted first by purchasing license and getting the translation agreement from the MBI copyrighter Mind Garden, Inc. The translation into Kazakh and Russian languages was performed by culturally competent and Russian-Kazakh speaking faculty members of the research team. Questionnaires were evaluated and revised by eight clinical doctors proficient/native in English, Kazakh and Russian languages. They assessed the pertinence of each statement in Kazakh and Russian versions of MBI- HSS (MP) and gave feedback. Finally, the last version of translated MBI -HSS (MP) was reconciled with research committee.

**Summary of Results:** The Russian and Kazakh version of the MBI -HSS (MP) was freely shared with Mind Garden Inc. The process of adaptation and validation of the questionnaire was challenging considering differences between American and Kazakhstan healthcare language, system and culture. The process is necessary to achieved meaningful results.

**Discussion and Conclusions:** Adapted MBI-HSS (MP) is now an efficient tool to assess the level of burnout syndrome in Kazakhstani physicians. Currently 50 physicians have been surveyed.

**Take-home Messages:** Research team needs to allocate proper time to translate and validate any questionnaire prior conducting the research, and according to copyright laws.

## #5KK Posters – Students: Health and Wellbeing

### 5KK01 (246)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Workplace cultures and medical student burnout in clerkships

#### AUTHOR(S):

- Yung Kai Lin, Chiayi Branch, Taichung Veterans General Hospital, Taiwan (Presenter)
- Blossom Yen-Ju Lin, Chang Gung University, Taiwan
- Der-Yuan Chen, China Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Managerial studies have asserted that organisational culture can garner commitment from or exert control over individual employees, consistent with the hidden curricula discussed by medical educators in the workplace. Given that medical students are in transition from university-based learning to workplace-based learning in clerkships, this study examined the relationship of evaluated clinical department cultures on medical students' burnout in clerkships.

**Summary of Work:** Our target population was medical students from a 7-year medical education programme in Taiwan who served as clerks in their fifth and sixth year in one tertiary medical centre between September 2013 and May 2015. Informed consent was obtained from the medical students validated, structured, self-administered questionnaires were regularly web-mailed to participants to measure the perceived cultures and the students' burnout in individual clinical speciality rotations. The participants were free to decide whether to complete each survey, and they submitted various responses during the study period. The medical students responding in our survey responded to more than half of the speciality training rotation questionnaires in individual years; this resulted in 1630 responses from 59 medical students. Because each participant was not an independent cohort (i.e. their responses were treated as correlated data), hierarchical regression modelling was performed.

**Summary of Results:** The clinical department cultures characterised by teamwork and employee involvement, adaptability, flexibility, and creativity were related to medical students' reduced burnout. Additionally, older medical students showed lower burnout in clinical workplace training than did younger students.

**Discussion and Conclusions:** Medical students in clerkship, who are novices in the clinical workplace, might be as susceptible to the influence of their clinical workplace culture as other employees in healthcare organisations are.

**Take-home Messages:** Clinical teachers and mentors must recognise the diverse perceptions and responses of medical students trained in various clinical department cultures, which might be viewed as hidden curricula of trainees. Relevant assistance and mentoring should be provided to assure medical students' well-being.

## #5KK Posters - Student: Health and Wellbeing

### 5KK02 (1395)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### 10 minutes mindfulness - does it work for Thai medical students?

#### AUTHOR(S):

- Benjawan Yoosamran, Hatyai Medical Education Center, Thailand (Presenter)
- Araya Khaimook, Hatyai Medical Education Center, Thailand
- Prapa Ratthanachai, Hatyai Medical Education Center, Thailand

#### ABSTRACT

**Background:** Sustainable attention and memory are important requirements for effective learning in academic performance. Over the past few decades, a wealth of researches has emerged in academic journal on benefit of mindfulness meditation for both mental and physical health. Some findings are suggested that individuals who are merely initialing a meditation will improve learning effectiveness for both attention and memory aspect.

**Summary of Work:** For these reasons, we initiated the tranquility class, a brief 10 minutes guided mindfulness was implement before starting the hands on ventilator session by listening the relaxing music and following the instruction of basic body scan in 40 of 6th year medical students. After this period, we started to demonstrate the hands-on of the ventilator usage. At the end of the session, students reflected themselves through the global rating scale questionnaire regarding learning ability, self-engagement and cognitive improvement when we applied the mindfulness technique in this learning class.

**Summary of Results:** Obviously, They revealed that more than 70% rated the mindfulness technique motivated them in being focus on the whole class program especially promoted intentional stability and participation in activities provided.

**Discussion and Conclusions:** In conclusion, for the student perspective, they demonstrated that implement of short brief period of mindfulness program can be a positive effect and improve their executive attentional control even in naïve.

**Take-home Messages:** Even short period of mindfulness meditation could have positive effect on medical students.



## #5KK Posters - Student: Health and Wellbeing

### 5KK03 (1209)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Well being of Medicine students: an update of the Italian longitudinal study

#### AUTHOR(S):

- **Giuseppe Familiari, Sapienza University of Rome, Italy (Presenter)**
- Claudio Barbaranelli, Sapienza University of Rome, Italy
- Maria Grazia Strepparava, Milano Bicocca University, Italy
- Valerio Ghezzi, Sapienza University of Rome, Italy
- Gabriele Cavaggioni, Sapienza University of Rome, Italy
- Eugenio Gaudio, Sapienza University of Rome, Italy

#### ABSTRACT

**Background:** Current Italian undergraduate medical-school (UMS) assessment procedures test only applicants' cognitive skills. There are no studies investigating the importance of non-cognitive skills as well as the impact of academic life (course, training, exams, and the like) on students well-being. In order to fill this gap the Italian Conference of UMS Directors promoted a longitudinal research aimed to investigating students well-being across the 6-years of medical course.

**Summary of Work:** The research was longitudinal in design and involved 6 Universities equally distributed in the different geographic zones of Italy. A questionnaire measuring personality and self-efficacy, psychological well-being, motivational and vocational factors as well as socio-demographic variables was administered at the beginning of the first and third years. A total of 834 students were enrolled in the first wave: the remainders at the second wave were 478 (about 53%).

**Summary of Results:** Preliminary results obtained from the analysis of the questionnaire show that students personality profiles are relatively stable, especially rank order stability in personality traits (the so called big five), self-efficacy and empathy. Stability coefficients ranged from .42 to .62 with an average stability of .52. However, moderate although significant decrease in academic self-efficacy and life satisfaction, and increase in personal disease across time emerged.

**Discussion and Conclusions:** Although medicine students show high levels of self-regulation capability, as well individual profiles evidencing a substantial well being, the 3 years of course of Medicine show a significant (albeit moderate) impact on students perceptions of themselves. In particular, academic activities likely produced a more realistic self-evaluation of own academic capabilities. The commitments of the course of studies have a likely impact in increase a sense of personal disease of students.

**Take-home Messages:** Psychometric validated scales allow to predict medical students attitudes and to study psychological profiles through their academic career. Tracing changes in interpersonal and intrapersonal competencies contributes to identify vulnerabilities and strengths crucial for their professional development. Results allow to individuate non-cognitive variables to be included in national UMS tests.

## #5KK Posters - Student: Health and Wellbeing

### 5KKo4 (1823)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Navigating medical student wellbeing: an exploratory study of students and staff

#### AUTHOR(S):

- Victoria Simpson, University of Liverpool, UK (Presenter)
- Laura Halpin, University of Liverpool, UK
- Kirk Chalmers, University of Liverpool, UK

#### ABSTRACT

**Background:** Mental Health concerns in young people are known to be a major public health challenge, and the prevalence of this is higher in medical students compared with age-matched controls. In order to offer additional wellbeing support to students, The University of Liverpool Medical School, UK, has run a dedicated support and wellbeing team for its MBChB students for the past few years. This project aimed to explore the impact of these services from both staff and student perspectives.

**Summary of Work:** In 2015-16, seventeen second year medical students and five members of academic and wellbeing staff participated in one-to-one semi-structured interviews. Student interviews focused on wellbeing at medical school and the support utilised. Staff interviews discussed their roles in providing wellbeing services to students. Interviews were recorded, transcribed and analysed thematically to identify common themes across both students and staff members.

**Summary of Results:** Both students and staff highlighted the taboo culture surrounding mental health amongst medical professionals. The benefits of consistent personal tutors throughout medical school were emphasized as one potential mechanism of support. However, students perceived barriers in accessing help from School staff due to concerns about impact on academic progress, revealing that some were dependent entirely on peer support networks in challenging circumstances. Conversely, staff highlighted that the demand for wellbeing services often outweighs capability to provide it, and expressed concerns that students have unrealistic expectations of what Medical Schools, as academic units, can offer.

**Discussion and Conclusions:** Wellbeing and resilience is vital for medical students. The presence of a wellbeing service at the University of Liverpool, and the fact it is stretched, shows there is a clear need for it. This project established that much of the services' reduced utility was due to students' preconceptions, alternative resource usage or unwillingness to seek help.

**Take-home Messages:** Wellbeing support services are widely used by students when available. However, investment in developing close staff-student relationships is needed to ensure students understand both the potential benefits of accessing such services, but also be realistic about what such services can offer, particularly when these are provided directly by Medical Schools themselves.

## #5KK Posters - Student: Health and Wellbeing

### 5KK05 (1359)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A novel study: how Hong Kong medical students' professionalism behaviours are affected by educational experiences before medical school

#### AUTHOR(S):

- Sophie Yau, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Natalie Law, The Chinese University of Hong Kong, Hong Kong
- Isabel Hwang, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** In Hong Kong (HK), students enter university via JUPAS (when holding the HK Diploma of Secondary Education) or non-JUPAS (when holding other qualifications). Recently, medical schools have been admitting more non-JUPAS students, who are presumed to be more privileged. This raises public concern regarding their adaptability to healthcare workplaces. As levels of motivation, burnout and professionalism affect professional behaviour, our novel study aimed to investigate how these differ between the two groups.

**Summary of Work:** An online survey was distributed to preclinical medical students (Years 1-3). Respondents answered customised multiple-choice questions on motivation. Questions from Maslach's Burnout Inventory were used to investigate burnout. Questions covering various professionalism attributes were selected from UCAT's Situational Judgement Test. Answers were scored based on closeness to official answers.

**Summary of Results:** Responses were received from 253 students. Non-JUPAS students (n=108) had a higher average age ( $p<0.01$ ) than JUPAS students (n=145), and more (18.1%) lived in private housing, suggesting better socio-economic backgrounds. The primary reasons for applying to medical school were 'a wish to serve society in a clinical setting' (JUPAS:43%;Non-JUPAS:49%) and 'interest in medical sciences' (JUPAS:35%;Non-JUPAS:36%), with a post-entry shift of interest towards clinical work. Their burnout scores had no significant difference, but the average (JUPAS:35.7;Non-JUPAS:36.7) classified students as almost burnout. Regarding professionalism, non-JUPAS students (47.2) scored higher ( $p<0.01$ ;JUPAS:45.5), with no age correlation.

**Discussion and Conclusions:** A significant portion of students showed interest in medical sciences rather than clinical work initially, reflecting cultural values that favour professional careers. The curriculum ensures clinical exposure rather than research attachments, explaining the change in motivation. Academic pressure explains the high burnout scores. Studying medicine is challenging and mental wellness programmes (e.g. mindfulness and meditation workshops) must be introduced into the curriculum. Mean professionalism scores were high despite minimal clinical exposure. Non-JUPAS students may have scored higher because of greater exposure to related topics in previous schooling and admissions preparation. To minimise this gap, classroom sessions with physicians participating should complement pre-existing online activities.

**Take-home Messages:** Educational backgrounds make some difference to the professional behaviour of HK medical students. However, mental wellness initiatives must be introduced to address burnout. Supplementing online activities with interactive ones may equalise professionalism scores.

## #5KK Posters - Student: Health and Wellbeing

### 5KKo6 (3106)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Experiences of Medical Students who Participated in a 6-Week Self-Compassion Program: A Qualitative Investigation

#### AUTHOR(S):

- Camila Velez, McGill University, Canada (Presenter)
- Namta Gupta, McGill University, Canada

#### ABSTRACT

**Background:** Medical students confront significant stressors throughout their training, including academic, clinical, psychosocial, and existential challenges. Research indicates a high prevalence of stress, anxiety, burnout, and depression in medical students. Poor psychological well-being among medical students can interfere with learning and success in medical school, decrease quality of life, and negatively impact the delivery of professional and compassionate patient care. Given this context, it is necessary to provide students with tangible and effective tools to cultivate self-care, compassion, and manage stress. Self-compassion interventions have been found to increase well-being, compassion, and resilience in diverse populations, but little is known about their effectiveness with medical students.

**Summary of Work:** This pilot qualitative study investigated the experiences of 11 medical students who participated in an adapted self-compassion group program. The program consisted of psychoeducation sessions, informal and formal meditation practices, experiential exercises, and group discussions. Participants met for 2 hours once a week for 6 weeks. Participants completed an individual, semi-structured interview at the end of the program. The interviews were analyzed using interpretative phenomenology analysis.

**Summary of Results:** Preliminary results suggest that participants valued the self-compassion program as helpful in dealing with the challenges of medical training. Reported benefits included increased self-kindness, ability to recognize and regulate difficult emotions, compassion towards others, increased motivation, and a reduced sense of isolation and inner-criticism. Participants also addressed several challenges associated with the program and provided recommendations to make the program more valuable to medical students.

**Discussion and Conclusions:** Preliminary results suggest that self-compassion programs have a promising potential for enhancing the personal and professional well-being and resilience of medical students. The results also indicate that self-compassion programs may be feasibly implemented as prevention interventions for medical students. Clinical implications and directions for future research are presented.

**Take-home Messages:** This is one of the few qualitative studies of the impact of a self-compassion intervention among medical students. Preliminary findings suggest that medical students find aspects of the program beneficial to their personal and professional well-being. Adapted self-compassion programs can be feasibly implemented as prevention and skill-building interventions for medical students.

## #5KK Posters - Student: Health and Wellbeing

### 5KKo7 (186)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Prediction of factors contributing toward highest and lowest Global Quality of Life levels among medical students using machine learning models

#### AUTHOR(S):

- Alice Q. C. Miguel, Faculdade de Medicina da Universidade de Sao Paulo, Brazil (Presenter)
- Milton de A. Martins, Faculdade de Medicina da Universidade de Sao Paulo, Brazil
- Patricia Tempski, Faculdade de Medicina da Universidade de Sao Paulo, Brazil
- Renata Kobaiasi, Faculdade de Medicina da Universidade de Sao Paulo, Brazil
- Fernanda Mayer, Faculdade de Medicina da Universidade de Sao Paulo, Brazil

#### ABSTRACT

**Background:** This is a cross-sectional study to evaluate factors contributing toward quality of life levels among medical students.

**Summary of Work:** Data were evaluated from a random sample of 1350 medical students from 22 Brazilian medical schools. Our outcome of interest was quality of life (QoL) related to medical course activities. We selected the following variables as predictors: World Health Organization Quality of Life Assessment abbreviated version (WHOQOL-BREF), VERAS-Q, a questionnaire created to evaluate the QOL of students in health professions, Epworth Sleepiness Scale (ESS), Pittsburgh Sleep Quality Index (PSQI), Beck Depression Inventory (BDI), Resilience Scale (RS-14), State-Trait Anxiety Inventory (STAI), Interpersonal Reactivity Multidimensional Scale (IRMS), Maslach Burnout Inventory (MBI), Dundee Ready Education Environment Measure (DREEM). The potential confounders selected were age, gender, body mass index, and school levels.

**Summary of Results:** We run a tree regression model (recursive partitioning), identifying the main sequential factors leading to the prediction of medical student's quality of life related (QoL) to the medical course. The model demonstrated that the VERAS-Q - physical health domain was the most important factor predicting QOL, followed by VERAS-Q-time management, VERAS-Q-learning environment, WHO QOL-physical health, and Maslach Burnout Inventory-Emotional exhaustion domain. We found that the students with a VERAS-Q-physical health score  $\geq 60.9$  and a VERAS-Q-time management score  $\geq 55.7$  presented the best QOL related to the medical course with a score of 8.08 (9.63%), while those with VERAS-Q-physical health score  $< 60.9$  associated with a VERAS-Q-learning environment score  $< 56.2$  were associated with the lowest QOL (3.79, 2.15%). Additional combinations of scores were associated with intermediate QOL scores as demonstrated in graphic.

**Discussion and Conclusions:** Physical symptoms, self-perception of health and self-care are significantly associated to quality of life of medical students. In the subgroup with higher quality of life, time management is a differentiator for better scores. Teaching environment and social relationships in medical course have a greater impact in the subgroup with worse quality of life.

**Take-home Messages:** A questionnaire developed specifically to evaluate quality of life in medical students (VERAS-Q) has greater power in discriminate better and worse quality of life in this group than questionnaires used for general population.



## #5KK Posters - Student: Health and Wellbeing

### 5KKo8 (3003)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Enhanced health awareness for non-medical students through digital learning at Prince of Songkla University

#### AUTHOR(S):

- Kanyanatt Kanokwiroom, Prince of Songkla University, Thailand (Presenter)
- Kanyika Chamniprasas, Prince of Songkla University, Thailand
- Nongluk Rukleng, Prince of Songkla University, Thailand
- Kamonwan Songkroh, Prince of Songkla University, Thailand
- Sophin Kaewsalubsri, Prince of Songkla University, Thailand
- Srirat Fungtosatum, Prince of Songkla University, Thailand

#### ABSTRACT

**Background:** The “Health for all” course has been newly established to initiate the health awareness and self-care for first-year-non-medical students in Prince of Songkla University via digital learning.

**Summary of Work:** The course was run as a module for 2 weeks in each sections. Topics included were the principle and steps of basic life support, practice of basic life support in simulated situation; common mental health problems, warning signs, initial assessment and care; concepts of health and health promotion; first aid. During a section, 150 participants were divided into 10 groups, in order to individually practice the basic life support under supervision. Then, we aimed to evaluate the progress of health awareness of students who completed the course. At the end of the course all students had a self-evaluation, based on online questionnaires. Learning outcomes were scored from 1 (poor) to 5 (excellent) for each topics in order to assess their health awareness.

**Summary of Results:** A total of 1003 (52.13%) out of 1924 students (4 health science and 5 non-health science faculties) in Prince of Songkla University (4.49% of medical technology, 15.05% of nursing, 1.50% of veterinary science, 4.39% of physical therapy and radiological technology, 21.04% of liberal arts, 19.24% of management sciences, 4.29% of economics, 0.40% of international college students and 29.61% of science students) completed the survey. The average self-rating score of 4.46 $\pm$ 0.09 was retrieved among all students. Learning outcomes of health promotion showed the highest score with 4.55 $\pm$ 0.20 while the basic life support showed the lowest rate (4.30 $\pm$ 0.26). The students from the health science faculties (n=255) demonstrated a slightly higher rating score of 4.46 $\pm$ 0.10 on health awareness compared with non-health science (n=748) faculties (4.35 $\pm$ 0.18).

**Discussion and Conclusions:** This course has been recently arranged for all first-year students in our university aiming to increase their health awareness. This strategy was used to enhance and promote health awareness in our university not only for medical, but also for non-medical students. The course helped them to be more health conscious during their daily life, and by this attitude to increase their own well-being.

**Take-home Messages:** Health awareness may boost the quality of life.

## #5KK Posters - Student: Health and Wellbeing

### 5KK09 (1653)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Improving wellbeing in medical students - A work in progress

#### AUTHOR(S):

- Jan McKenzie, University of Otago (Christchurch), New Zealand (Presenter)
- Kate Fitzmaurice, University of Otago Christchurch, New Zealand
- Fraser Jeffery, University of Otago Christchurch, New Zealand
- Bridget Lang, University of Otago Christchurch, New Zealand

#### ABSTRACT

**Background:** Medical student wellbeing and mental health issues have become an important topic that is being examined and addressed by many medical schools. Despite a number of strategies being put in place at our medical school in New Zealand it remains concerning how many students don't reflect on their own wellbeing and fail to seek help when stressed. Following the massive earthquakes in Christchurch 2010 and 2011 students were surveyed to assess the impact of the earthquakes on wellbeing and a number of other variables. The survey also included questions on what positives, if any, had emerged. A surprising finding was that despite the enormous stress and chaos the students and staff experienced, those in the earthquake areas did much better than predicted in their examinations. One of the other positive findings to come out of our survey was an increased sense of connectedness. This sense of community ... was also palpable between staff and students. That is, we were all vulnerable together.

**Summary of Work:** With the above issue in mind a number of initiatives have been developed to try and improve the sense of connectedness in the hope it will aid wellbeing, and help seeking in students. This presentation will describe these developments, including a wellbeing focus group made up of staff and students and presentations to students by panels of teachers and students including physician's surgeons and registrars talking openly about their experiences of burnout and seeking help.

**Summary of Results:** This will be presented in the form of feedback from students /staff as well as the number of students seeking advice.

**Discussion and Conclusions:** Students tend to see the teaching staff as invincible and often unapproachable. A combined approach to "wellbeing" including both staff and students is seen as a way to bridge the divide between staff and students. Staff being more open about their vulnerabilities and ways they dealt with their own wellbeing or ill-health also contributes to breaking down staff / student barriers and thus makes it easier for the students to address these issues.

**Take-home Messages:** Staff role modelling their attention to wellbeing may enable students to more readily address their own health.

## #5KK Posters - Student: Health and Wellbeing

### 5KK10 (3176)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Healthy Lifestyle as Prophylaxis of Endocrine Pathology among Medical Students

#### AUTHOR(S):

- Liza Mirkovskaya, UNMU, Ukraine (Presenter)

#### ABSTRACT

**Background:** It is no secret that medical students around the globe undergo serious amounts of stress related to adjustment to rigors of medical curriculum, to change of roles, and to other factors intrinsic to medical education. Research has shown that stress among medical students is associated with generally lower academic performance and lower job satisfaction once physicians. The goal of this study was to analyze the influence of healthy lifestyle practices not only on medical students health overall, but specifically on prevalence of endocrine pathology among medical students.

**Summary of Work:** Nearly 400 medical students in their last year of medical studies, representing 11 countries, participated in the study. Students were both those who studied in native languages to those countries and those enrolled in English language programs. Overall, over 20 cultural and ethnic backgrounds were represented. Using standardized peer-reviewed assessment instruments, students were asked to self-report their lifestyle practices (diet, exercise, etc) and occurrences of endocrine disorders. Data were coded and analyzed via various statistical tools offered by SPSS 21.

**Summary of Results:** Data show that healthy lifestyle, as defined by various health promotion organizations, is strongly related to absence of endocrine pathology among medical students. Medical students who reported presence of endocrine disorders were likely to also report poor sleep and diet habits, reduced level of exercise and use of alcohol/tobacco.

**Discussion and Conclusions:** Medical curriculum is generally rigorous and challenging, not leaving enough time for medical students to take care of their health and engage in healthy lifestyle practices. This and many other studies show that medical students health suffers tremendously due to such increased demands. Therefore, it is imperative that medical students are aware of the deleterious association between medical studies and medical students health and act accordingly to prevent development of various pathologies, including endocrine ones.

**Take-home Messages:** Healthy lifestyle is strongly associated with prevention of endocrine pathology among medical students.

## #5KK Posters - Student: Health and Wellbeing

### 5KK11 (1672)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' self-perception about their Quality of Life is overestimated: is this the base of their mental troubles?

#### AUTHOR(S):

- Patricia Maluf Cury, FACERES, Brazil (Presenter)
- Mariana Neves Ceratti, FACERES, Brazil
- Fernanda Pessato Quessada, FACERES, Brazil
- Patricia da Silva Fucuta, FACERES, Brazil
- Felipe Colombeli Pacca, FACERES, Brazil

#### ABSTRACT

**Background:** A good Quality of Life (QoL) is fundamental for the mental and physical health of medical student. In previous studies, we observed a high rate of stress in students (70% had emotional stress symptoms). As a coping mechanism for these students, focus on the problem was the most used (48.5%) followed by search for social support (31.6%). The aim of this study is to investigate the student perception about their QoL, in order to be aware of their own problems.

**Summary of Work:** Quali-qualitative survey with medical students from 1st to 4th year. We applied three instruments: SF36 health questionnaire; a QoL self-perception questionnaire and a questionnaire with self-knowledge and coping strategies questions.

**Summary of Results:** 203 students answered the questionnaires (women 64.5% and median age 20 years, range from 17 to 41 years). Students self-perception about QoL was overestimated in the domains of general health, role-physical, bodily pain, vitality, role-emotional, social functioning and mental health ( $p < 0.001$ ) and underestimated in functional capacity ( $p < 0.001$ ). Difference between the two scores was calculated and comparative analysis was performed. There was a significant difference between genders, and men showed a greater deviation from SF36 to QoL self-perception for mental health domain than women:  $14.3 \pm 21.8$  and  $7.67 \pm 22.4$ , respectively ( $p = 0.04$ ). Regarding questionnaire that sought to justify the discrepancies, 67.5% felt that the way they think is consistent with what they act frequently, 72.9% think they know their own needs, 73.9% evaluate their QoL as good or great. Regarding coping strategies, 38.9% preferred to be alone with the problem, 41.9% to seek other people, 12.8% to use drinks or drugs, 33.5% to increase food intake, 10.8% to practice physical exercises, 13.3% to seek professional help, 11.3% to seek religious help and 11.3% to seek other methods. When analysing such results between genders, women increased their food intake more than men ( $P = 0.002$ ). In other items, there were no differences between genders.

**Discussion and Conclusions:** The present study showed that students self-perception about their QoL is mistaken and overestimated.

**Take-home Messages:** Students are not aware of their real health and this fact leads them not to manifest the need for help and change their behaviour.

## #5KK Posters - Student: Health and Wellbeing

### 5KK12 (727)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Special supplementary courses (Soft sciences) experience for reducing stress in medical students. Time for renovation

#### AUTHOR(S):

- Vich Thampanya, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand (Presenter)
- Chulaphong Chanta, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand

#### ABSTRACT

**Background:** A last year report of fifth-year medical students showed that medical students were stressed and suffered from hard works. Students did not know a proper way to handle and reduce their stress. Study also emphasized that stress can increase depression, up to 7.8 times.

**Summary of Work:** Special supplementary courses(Soft sciences) for the 4th year medical students year 2018, consisting of all eight activities from thirteen events for three months. These programs were organized in the course of medical students held on Wednesday from 3.00 p.m. to 4.30 p.m. The examples of these activities were yoga, music, art, etc. Students were assessed their E.Q. and stress level before the implementation and after the last activity. Students attending each activity responded to the satisfaction survey, and expressed their opinions after all activities ended.

**Summary of Results:** All of 42 medical students including 17 males, 25 females showed that students' stress level didn't change significantly before and after soft sciences' program (p-value= 0.66). Yoga, music, art, and aerobic dance were the top 4 popular activities. Students mentioned that "art activity help them in developing teamwork, creativity, harmony and humanity. Yoga and music promotes concentration. In addition yoga also helps in relaxation and strength of muscle.

**Discussion and Conclusions:** Duration of the study was short and the schedule for each activity was quite tight. Some students felt exhausted to join the activities in every consecutive Wednesday. However, they felt that the activities were helpful in promoting proper stress management skills. Students voted yoga, music, art, and aerobic dance for their top 4 activities. We might reduce the activities to these 4 activities for the next year students. Soft sciences are very helpful for promoting non technical skills. It should be part of the curriculum of medical students.

**Take-home Messages:** Soft sciences are the activities that should be promoted to integrate in the curriculum for healthy mind and body.



## #5KK Posters - Student: Health and Wellbeing

### 5KK13 (1488)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### MuayThai boxing fights reduce stress and improve exercise attitudes in medical students

#### AUTHOR(S):

- **Narin Chindavech, Buriram Medical Education Center, Thailand (Presenter)**
- Detdanai Wannapong, Buriram Medical Education Center, Thailand
- Runghapa Pengprakhon, Buriram Medical Education Center, Thailand
- Yada Siriphannon, Buriram Medical Education Center, Thailand
- Surasak Aumkaew, Buriram Medical Education Center, Thailand
- Thanatpong Thienwuttiwong, Buriram Medical Education Center, Thailand

#### ABSTRACT

**Background:** According to intense contents in clinical years, some medical students are maladjusted and lack of time to recreation, relaxation and regularity of exercise. They tend to be stress out, anxiety and depression leading to burn out and learning problems. Finding time for exercise beyond studying is a challenge part. There are many relaxation ways to refocus the body and the mind, boost energy and lift the mood examples of running and walking, yoga, perform high-intensity training in medical school. Currently, in oriental way, MuayThai is a famous widely exercise work out program. Therefore we incorporated MuayThai in the leisure time to enhance students' experiences.

**Summary of Work:** To determine the stressors, exercise behaviors and recreation time of medical students before and after program. The program consisted of 60 minutes exercise session (10mins warm-up, 40mins MuayThai, 10mins cool-down) on afternoon of Wednesday (faculty hour) for 2 week consecutive. The program led by MuayThai instructors and trainers of our hospital health club. The pre and post-test self-administered questionnaires were collected.

**Summary of Results:** Ninety of 4th to 6th year medical students were enrolled, 8 (11%) were junior doctors, female was 54.8%. The average mean age and BMI were  $22.9 \pm 1.4$ ,  $20.9 \pm 2.7$ , respectively. Only half of students (52.2%) had exercise after off-duty, average time 40 (range 30-65) minutes, 3 (range 2-4) days per week. The favorite exercises were treadmill running, outdoor running, basketball (73%, 14%, 11%, respectively). Only 8% of them had experience in MuayThai. The other free time activities were internet surfing 65.8%, game playing 12.3%, watching television 8.2%, book reading 4.5%. The student stressor questionnaires (total score 4) were reduced significantly after the session ( $2.1 \text{ vs } 1.8$ ,  $p < 0.05$ ). Student satisfaction ten-point scores were significantly increased (7.8 versus 9.7,  $p < 0.05$ ) due to receiving new experiences and subsequent good night sleep. And they also were enthusiastic to participate in next session after the study.

**Discussion and Conclusions:** Medical students also have many stresses encountered. MuayThai and other relaxation exercise may incorporate in medical education to help them cope with stressors.

**Take-home Messages:** MuayThai fightburn sessions reduce stress and improve exercise attitudes in medical students.

## #5KK Posters - Student: Health and Wellbeing

### 5KK14 (2685)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Mental Health and Wellbeing Amongst Medical Students: How are we doing?

#### AUTHOR(S):

- Zayna Syed, University of Glasgow, UK (Presenter)

#### ABSTRACT

**Background:** Stress is defined as a state of immense emotional strain, whilst burnout is described as physical or mental collapse as a result of emotional exhaustion or overwork. Stress and burnout are symptoms that are frequently experienced by medical students and may exacerbate during their time at medical school. Poor mental health in university can often continue into working life. This not only has the ability to affect academic performance but could also increase human error, thus having detrimental effects upon patient care. The GMC has expressed concerns about the prevalence of mental health conditions in medical students. It indicates that it is the responsibility of the medical school to enforce that precautionary measures are implemented to encourage positive mental health and wellbeing in their students.

**Summary of Work:** A prospective anonymous study encompassing all students from 1st to 5th year of Glasgow University was sent out and completed online. It aimed to collect data on the effectiveness and availability of stress management provided by the university. The results of the study were used to compose an audit that will be made available to the medical school in order to improve the quality of support provided to students. This has the intended effect of shaping more resilient doctors to improve clinical governance.

**Summary of Results:** A proportion of students had experienced stress/burnout in medical school that affected their everyday activities and wellbeing. In addition, there were many forms of support provided by the medical school that students were either unaware of or did not find to be beneficial.

**Discussion and Conclusions:** Stress and burnout are common amongst medical students and although preventative measures are in place, they are not always effective, nor utilised to their full potential. Support is available in different forms. However, students in need may not be aware of services available and/or may not find them beneficial. Therefore, it is necessary to change current strategies.

**Take-home Messages:** Stress and burnout are commonly experienced by medical students throughout all year groups. Although there are steps in place to help medical students mental health, there is still scope for improvement.

## #5KK Posters - Student: Health and Wellbeing

5KK15 (212)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Non-medical use of prescription stimulants by undergraduate medical students at a South African University

#### AUTHOR(S):

- Lori Bocchino, Unit for Undergraduate Medical Education, Health Sciences Faculty, University of the Witwatersrand, South Africa (Presenter)
- Muhammed Alli, UUME, Wits Medical School, South Africa
- Thandeka Dube, UUME, Wits Medical School, South Africa
- Xolani Manqina, UUME, Wits Medical School, South Africa

#### ABSTRACT

**Background:** There has been a documented increase in the off-label use of prescription psychostimulant drugs (e.g. methylphenidate) by university students. Multiple risk factors have been identified, including increasing academic/time pressures and competitive environments. In the context of medical schools with extremely demanding programmes, students are thought to be at even higher risk. Two South African universities have previously found prevalences of non-medical stimulant use amongst medical students of 11-18%.

**Summary of Work:** Objectives To determine the prevalence of non-medical prescription stimulant use by medical students at the University of the Witwatersrand in Johannesburg, South Africa. Methods This was a cross-sectional observational study, using an online survey administered to MBChB students in years 3-6

**Summary of Results:** A total of 185 students completed the survey across all 4 years of study, yielding a response rate of 14.3% (total population = 1298), CI 6.67%. The highest response rate came from the MBChB 3 class, the lowest from MBChB 6. 15.1% (n=28) reported use of prescription stimulants for non-medical purposes, with 93% using methylphenidate. 61% of students used psychostimulants only when studying for tests/exams, and 100% reported 'improvement of concentration' as the reason for use. Multiple short-term adverse effects were reported, but 64% also reported positive effects in terms of improved grades. With respect to sourcing drugs, 58% obtained the stimulants from friends. There was a statistically significant difference ( $p=0.003$ ) in usage between graduate-entry students (61%) compared to school-leavers (39%), and the highest prevalence was seen in the age group 24-26 years at 43% ( $p=0.037$ ). There was no statistically significant difference in usage according to gender, race, or year of study.

**Discussion and Conclusions:** The prevalence of non-medical prescription stimulant use amongst medical students at the University of the Witwatersrand was found to be 15.1%, which is comparable with other South African universities. The highest prevalence was amongst graduate-entry students and those aged 24-26 years, with 93% using methylphenidate. The drugs appear to be easily procured.

**Take-home Messages:** Non-medical use of prescription stimulants by medical students is a concern, and there is still little known about the long-term effects. We should consider strategies to appropriately support students in dealing with the demands of tertiary education.

## #5KK Posters - Student: Health and Wellbeing

### 5KK16 (1249)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Resiliency of First Year Clinical Rotations in Thai Medical Students Managed With Burnout

#### AUTHOR(S):

- Piyaporn Sirijanchune, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand (Presenter)
- Panomkorn Lhakum, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand

#### ABSTRACT

**Background:** First year clinical rotations of the fourth-year medical students suffered from many pressure and stress. There were major changes during clinical years caused problems. They had burnout due to high level of expectations and responsibility with heavy academic workloads.

**Summary of Work:** This is a cross-sectional survey of first year clinical rotations of fourth-year medical students during 2018 academic year at Medical Education Center Chiangrai Prachanukroh Hospital. Aim to evaluate their burnout using questionnaires of PHQ-9 and Thai HADS. Survey the resilience of their burnout management during clinical years.

**Summary of Results:** 44 fourth-year medical students had completed the questionnaires. There were 25 medical students (56.81%) had problems of burnout by using PHQ-9 or Thai HADS questionnaires. 21 medical students (47.72%) had burnout by using PHQ-9 questionnaires with PHQ-9 score > 5 and 18 medical students (40.91%) had burnout by using Thai HADS questionnaires with Thai HADS score > 11. The burnout management in 25 medical students, 16 medical students (64%) chose to fulfill social interaction with their close friends, 5 students (20%) relieved their burnout by using favorite social media, 2 students (8%) relieved their burnout by exercise, 1 student (4%) chose to consult with mentor and 1 student (4%) chose to consult with parents.

**Discussion and Conclusions:** First year clinical rotations of fourth-year medical students had high level of burnout. The good resiliency for relief their burnout promoted well-being. Social interaction to close friends provided a great option for their resiliency.

**Take-home Messages:** Good resilience could relief the burnout problems.

## #5KK Posters - Student: Health and Wellbeing

### 5KK17 (2001)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Strengthening mindfulness to enhance learning outcomes by taking a brief meditation prior to a class: a research in fifth-year medical students

#### AUTHOR(S):

- Naphatsaphon Chumwong, Maharaj Medical Education Centre(MMEC), Maharaj Nakhon Si Thammarat Hospital, Thailand (Presenter)
- Kanchomkwan Kankorakoch, Maharaj Medical Education Centre(MMEC), Maharaj Nakhon Si Thammarat Hospital, Thailand
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- Piya Mongkolwongrojn, Maharaj Medical Education Centre(MMEC), Maharaj Nakhon Si Thammarat Hospital, Thailand
- Nitikorn Poriswanich, Forensic medicine department, Siriraj Hospital, Thailand

#### ABSTRACT

**Background:** Though several evidences show advantages of meditation in medical education, different meditation courses may result differently. Maharaj Medical Education Centre (MMEC) has designed our own meditation program and this study conducted in fifth-year medical students is to show the effectiveness of the course.

**Summary of Work:** A subset of randomized fifth-year medical students were classified into the meditating and non-meditating groups that comprised of 14 each. A brief meditation (15 mins) was assigned for each individual in the meditating group prior to the test. Both groups were assigned to do the test of concentration which are complicated and require a dynamic form and a high level of mindfulness. Data was observed through the scores.

**Summary of Results:** The age, gender, and accumulative GPA in each group are comparable and the same in baseline characteristics(p-value = 0.19, 1.00, and 0.28 respectively). The scores in the tests were found to be higher in meditation group(10 vs 6) while the number of times to reach the score were not different..

**Discussion and Conclusions:** The individuals in both groups were pre-tested and showed comparable baseline concentration levels, however, meditation showed a significant improvement that the scores obtained from the test were higher. We believe that this study might reflect an advantage of meditation to help strengthen mindfulness and result in enhancing learning outcomes.

**Take-home Messages:** A brief prior-to-class meditation might assist learning outcomes in medical students via strengthening mindfulness.



## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL01 (3383)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Piloting Practicum Script, a clinical reasoning simulator, in a multi-centre European study

#### AUTHOR(S):

- Amir Sam, Imperial College London, UK (Presenter)
- Eduardo M Pleguezuelos, Practicum Institute of Applied Research in Health Sciences Education, Spain
- Carlos Collares, Maastricht University, The Netherlands
- Adrian Freeman, University of Exeter, UK
- Eduardo Hornos, Practicum Institute of Applied Research in Health Sciences Education, Spain
- Cees van der Vleuten, Maastricht University, The Netherlands

#### ABSTRACT

**Background:** Current tools for assessing applied knowledge in undergraduate medical education are limited in their scope for testing clinical reasoning and the ability to manage uncertainty in clinical practice. Practicum Script (<http://www.practicumscript.education>) is an online simulation-based program aimed at enhancing clinical reasoning and problem solving skills as well as introducing the concept of uncertainty for decision-making. This multi-centre pilot study, coordinated by the European Board of Medical Assessors (EBMA), aims to investigate the utility of Practicum Script as a clinical reasoning training tool in undergraduate teaching and assessment.

**Summary of Work:** It is envisaged that four UK medical schools as well as medical faculties from other European countries will participate. The assessment material will consist of clinical cases mapped to key topics in internal medicine. Cases currently under development by an editorial team will be reviewed by a reference panel consisting of internal medicine experts who will provide responses to the questions and their rationales. A Literature review of the clinical evidence relevant to the experts' judgments will also be performed. For each clinical scenario, final year medical students will be asked to generate hypotheses in 'free-text' format and justify them by identifying pertinent positive and/or negative findings in the case. Subsequently students will need to report, in five different clinical scenarios, how new data may affect their original hypotheses. Feedback for the participants will be based on the summaries of experts' answers and justifications, along with the clinical evidence base from the literature. Students will also be able to see the concordance between their responses and those of the experts.

**Summary of Results:** The project is ongoing. We aim to perform psychometric analyses of the students' answers to the items for each case. Student satisfaction and perceptions about the educational model will be also be evaluated.

**Discussion and Conclusions:** Practicum Script may be a valuable undergraduate educational resource for assessment of clinical reasoning and medical students' ability to manage uncertainty in clinical practice.

**Take-home Messages:** There is a strong need for effective approaches tailored to development of clinical reasoning skills at the undergraduate level, and Practicum Script could contribute meaningfully to this goal.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL02 (839)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Time to investigate the path of clinical reasoning in chronic and multimorbid conditions

#### AUTHOR(S):

- Julia Sader, UNIGE (UDREM), Switzerland (Presenter)
- Claire Ritz, UNIGE, Switzerland
- Sarah Cairo Notari, UNIGE, Switzerland
- Thomas Fassier, UNIGE (UDREM), Switzerland
- Mathieu Nendaz, UNIGE (UDREM), Switzerland
- Marie-Claude Audétat Voirol, UNIGE (UDREM + UIGP), Switzerland

#### ABSTRACT

**Background:** According to Cook, management reasoning differs greatly from diagnostic reasoning (Cook et al, 2018), making it a more complex process. We intend to explore and shed some light on the different characteristics of this management reasoning.

**Summary of Work:** A qualitative descriptive study was carried out with semi-structured interviews about their management reasoning and the challenges they encountered with expert primary care physicians working with multimorbid patients in an ambulatory setting. A total of 9 participants were part of this study. Those 9 interviews were transcribed verbatim followed by an inductive and deductive data analysis.

**Summary of Results:** A few themes emerged from the data, confirming and developing further the perspective of Cook and al. Those themes helped us to better understand and better define how these complex factors coincide and interact with one another, especially regarding the collaborative reasoning with patients, family and other healthcare professionals.

**Discussion and Conclusions:** Our results gives us the opportunity to highlight Cook's findings as well as opening the bridge to further investigate how clinical reasoning is achieved in different settings. This study would enable clinicians to be more conscious of the richness and quality of their own clinical reasoning processes used during multimorbidity management. Our study contributes to better understand clinical reasoning in the context of patients with multiple chronic conditions during the long-term follow-up care of their patients. These results open the path to new research projects that will enable us to explicit the clinical reasoning processes used by physicians in the context of multimorbidity which might later support the teaching and supervision.

**Take-home Messages:** Primary care physicians are at the very heart of managing complex patients with multimorbid chronic conditions. This study enables us to think of clinical reasoning as a multi-faceted and longitudinal process.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL03 (3158)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Think Like a Doctor when you Read the News

#### AUTHOR(S):

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#### ABSTRACT

**Background:** The form we interpret the world that surrounds us depends on our background, this means, that the news on a person injured in an accident, is interpreted different by a doctor that for an architect or engineer. The doctor uses his medical knowledge to interpret the proportionate information, in other words he/she uses Clinical Reasoning.

**Summary of Work:** During a 20 weeks Physiology course we force students to use Clinical Reasoning in the interpretation of news they read or listen, no matter if it was directly or indirectly related to medicine. During the daily hour class one or two students were asked to share the news they had read or listened, and the rest of students were encouraging to discuss about it.

**Summary of Results:** At the end of the course students' opinions were highly positive. They agree that the daily discussion about news had encourage them to apply their medical knowledge to understand better the news and also to look for more information to clarify what they did not understand.

**Discussion and Conclusions:** Clinical Reasoning is the main cognitive tool used in the clinical practice. It is the reasoning path a medicine student must learn; therefore, it is very important to use all means to develop it.

**Take-home Messages:** Students can learn Clinical Reasoning just applying their medical knowledge to understand he world that surrounds them.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL04 (620)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Correlates of medical error and clinical reasoning

#### AUTHOR(S):

- Ching-Yi Lee, Chang Gung Memorial Hospital and Medical Education Research Center, Taiwan (Presenter)
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#### ABSTRACT

**Background:** Clinical reasoning (CR) is the thought process guiding health professionals' practices. Research suggests that medical errors may arise from poor CR skills. Expertise and knowledge may contribute as factors to reasoning/medical errors and hence the likelihood of medical disputes. We examined the association between medical disputes and CR errors.

**Summary of Work:** A retrospective method was used to investigate medical dispute cases (MDC) (2011-2015) filed at four hospitals in Taiwan. Through discussion and classification, we identified the number of MDC associated with CR errors, clinical specialty, and seniority, respectively.

**Summary of Results:** 57.7% (45/78) of MDC cases were associated with CR errors (82.2% (37/45) and 22.2% (10/45) were knowledge- and skill-related errors respectively). MDCs related to obstetrician-gynecologists (10/90, 11.1%), surgeons (8/90, 8.9%) and emergency physicians (7/90, 7.8%) who were equally associated with CR error-occurrence (5/51, 9.8%). Physician seniority negatively related to CR errors.

**Discussion and Conclusions:** CR errors account for almost 60% MDCs, with seniority playing a role in mitigating errors. Given that seniority indicates greater expertise accumulated, and hence explains its association with a lower number of medical disputes, we suggest that the development of CR skills should play a pivotal role in students' training.

**Take-home Messages:** An examination of MDCs across a range of medical institutions can help us understand the issues better and develop strategies for establishing a safe medical environment for both patients and medical personnel.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL05 (1365)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Clinical reasoning training program for Japanese nurses using advanced patient simulator

#### AUTHOR(S):

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#### ABSTRACT

**Background:** As nurses are usually performing the practice according to the instruction of the doctor, and there are few opportunities to diagnose the condition themselves at Japanese clinical site. We established a new training program to teach clinical reasoning to nurses at the opportunity that the nurses new training system related to specific medical treatment was decided by the Ministry of Health, Labor and Welfare in 2015.

**Summary of Work:** Ten nurses attending this course received lectures on physical assessment and clinical reasoning after receiving basic medical science, anatomy and physiology. After these curriculum, we conducted an objective structured clinical examination for physical assessment. Furthermore, we set four scenario of common disease of dehydration, hypoglycemia, heart failure and pneumonia in advanced simulator to mimic the patients in the hospital or their home. Participants made an interview and physical assessment to do a clinical reasoning for these simulators. Evaluator made an objective assessment and a debriefing as to whether the medical interview and the physical examination were properly performed, enough information were obtained, and the correct clinical reasoning was performed. Finally, whether the understanding of clinical reasoning improved was evaluated using a graded evaluation questionnaire.

**Summary of Results:** Average score of OSCE for physical assessment was  $94.4 \pm 3.98$ . Score about whether participants were doing clinical reasoning in clinical site was 2.2 (Max 4.0). Scores of comprehension of clinical reasoning and the understanding the procedure of clinical reasoning were significantly elevated from  $2.1 \pm 0.52$  (mean  $\pm$  SD) to  $3.3 \pm 0.54$ ,  $1.95 \pm 0.60$  to  $3.17 \pm 0.47$ , respectively. And scores of the interview technique and the physical examination technique also rose significantly from  $1.7 \pm 0.48$  to  $2.8 \pm 0.54$ ,  $1.85 \pm 0.47$  to  $3.0 \pm 0.41$ .

**Discussion and Conclusions:** Japanese nurses who have little experience for clinical reasoning were able to acquired medical interview and physical assessment skills by lecture and practical training using advanced simulator. Simulated medical practice allowed nurses to understand the meaning and procedures of clinical reasoning. In addition, these programs were useful for deepening the medical interview and physical examination techniques.

**Take-home Messages:** Training of clinically reasoning using an advanced simulator is useful for nurses to understand pathological conditions and improve diagnostic techniques.



## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL06 (303)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluating the use of case based discussion in improving clinical reasoning: A pilot study with medical students

#### AUTHOR(S):

- Rodger Laurent, Royal North Shore/Sydney Medical School, Australia (Presenter)
- Ted Tsai, Australia
- Diana Learoyd, Sydney University Medical School, Australia
- Kirsty Foster, Sydney University Medical School, Australia
- Kieran Fallon, ANU Medical School, Australia

#### ABSTRACT

**Background:** Clinical reasoning is the cornerstone of clinical medicine; yet is difficult to teach and there is little data on optimal methodologies. Case based discussions (CBD) with key features method may be useful in teaching clinical reasoning. The Bordage diagnostic inventory is a well-validated assessment tool of clinical reasoning.

**Summary of Work:** Ten medicine III/IV students at the Australian National University attended two sessions one month apart. Each session involved a 45 minute structured CBD on polyarthritis, the 41 item Bordage inventory, 10 question MCQ on polyarthritis. The case included questions on key features which were scored. Feedback was given to the student at the end of each case. Scores of the various assessments before and after the two CBDs were compared.

**Summary of Results:** Median age of the 10 students was 30 years (24-44). The second CBD score was slightly lower (50% vs 56%,  $p=0.06$ ). There was a trend for the poorer performing students to improve from the CBD. The pre and post CBD MCQ scores were unchanged (76% and 77%,  $p=0.91$ ). Total Bordage score improved from 150 to 161 out of 246 ( $p=0.18$ ). Flexibility in Thinking (FIT) score improved from 79 to 82 out of 126 ( $p=0.63$ ). Structure of Memory (SOM) score improved from 71 to 80 out of 120 ( $p=0.11$ ). The students with the poorest baseline Bordage scores improved the most (SOM 58 to 94, FIT 73 to 105).

**Discussion and Conclusions:** CBD is a labour and time intensive method for teaching clinical reasoning. The poorer performing students gained the most from the exercise. CBD significantly improves clinical reasoning in students with poor baselines, but may have less value in other students. Limitations of this pilot study include small sample size, high baseline student knowledge of polyarthritis, and short time interval between cases.

**Take-home Messages:** Case based discussions with key feature questions is an effective strategy to improve clinical reasoning when conducted by subject matter experts. Teaching strategies for clinical reasoning should focus on poorer performing students as identified by the Bordage diagnostic inventory score.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL07 (844)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### ClinicalCasesPod: Do medical students tune in to a case-based podcast series to help learn clinical reasoning?

#### AUTHOR(S):

- Keisha Marchon, Brighton and Sussex University Hospitals NHS Trust, UK (Presenter)
- Emma Davies, Brighton and Sussex University Hospital Trust, UK
- Rupert Phillips, Brighton and Sussex University Hospital Trust, UK

#### ABSTRACT

**Background:** There is a move towards finding new ways to expose clinical reasoning to undergraduates, as newly qualified UK doctors feel unprepared for this in practice. Podcasts are becoming a widely accepted method of supporting learning and are increasingly used in medical education, however their role facilitating the learning of clinical reasoning specifically is not yet clearly established.

**Summary of Work:** The project aimed to analyse medical students' understanding of clinical reasoning in their clinical years and assess whether the experience of listening to case-based podcasts created by foundation doctors highlighting clinical decision making is a useful learning tool. Three conversational-style case-based podcasts were created with the emphasis on why clinical decisions were made. Medical students in years 3-5 were given access to the podcasts and invited to participate in the study by completing an online questionnaire, and invited to attend a semi-structured interview. Thematic analysis of the qualitative questionnaire results and semi-structured interview transcripts is being undertaken.

**Summary of Results:** Preliminary results suggest that the students find the format helpful for increasing understanding of clinical reasoning in diagnosis and management, with greatest value being during clinical placement and in preparation for foundation training. There is a strong call for more clinical scenarios and insight into which presenting complaints are felt to be most needed. Semi-structured interviews will provide more in-depth understanding of how students felt about the podcasts as a learning aid and will enable the researchers to elicit information regarding students' understanding of clinical reasoning.

**Discussion and Conclusions:** This study will provide helpful insights into the behaviour of podcast use generally, and more specifically with regards to clinical reasoning; positive reporting suggests value in using this 'bite-sized' conversational format to help open up the 'black box' of clinical reasoning to learners. Furthermore, there are interesting insights into which points in the curriculum students feel this pedagogical approach has greatest value.

**Take-home Messages:** Preliminary results are positive, as this study aims to enhance understanding of the feasibility and educational value of delivering case-based podcasts for medical students, to support their development of clinical reasoning.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL08 (2111)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### From Presentation to Pathology: A workshop on forming a Differential Diagnosis

#### AUTHOR(S):

- Charlotte Pallett, University College London Medical School, UK (Presenter)
- Anum Pervez, University College London Medical School, UK
- James Leveson, University College London Medical School, UK
- Paul Dilworth, University College London Medical School, UK

#### ABSTRACT

**Background:** Clinical reasoning is the cognitive process by which clinicians apply their knowledge and experience to formulate a differential diagnosis. It involves several steps such as data gathering, interpretation, and critical evaluation of arguments for and against a particular diagnosis. This process is seldom formally taught in medical schools due to the complexities involved in gaining the knowledge, experience, and breadth of skills required. Therefore the challenge facing the clinical teacher is how to provide students with a framework from which they can develop their own clinical reasoning skills.

**Summary of Work:** The aim of this project was to develop a standardised framework for teaching medical students about clinical reasoning and uncertainty of differential diagnosis. A workshop was designed and integrated into an existing teaching week for first year clinical students. During this week, students followed the journey of four patients from GP presentation, through hospital admission, and then discharge back into the community. The new workshop introduced learners to the concept of clinical reasoning using didactic teaching, and students then undertook an interactive session focused on arguments for and against a particular diagnosis. By testing their assumptions regarding the diagnosis, students were able to critically analyse the complexities surrounding a patient's presentation and management.

**Summary of Results:** Pre- (n=37) and post-workshop (n=32) evaluation forms were given to students to assess their understanding of clinical reasoning, as well as their confidence in applying these skills, using a 10-point Likert scale. Following the session, students felt more confident defining clinical reasoning (+2.8), formulating a diagnosis from history taking (+0.5), examining patients (+0.6), and interpreting test results (+0.7).

**Discussion and Conclusions:** By introducing students to the concepts of clinical reasoning early in training, it offers a strong foundation for ongoing learning and transferable skills into clinical practice. The ultimate aim would be to reduce patient errors around incorrect diagnosis, which can have serious implications on patient morbidity and mortality.

**Take-home Messages:** Clinical reasoning is an important skill that ought to be introduced early in medical training to avoid errors in patient diagnosis. By creating a framework for clinical reasoning, we believe this is a teachable skill that will benefit students.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL09 (658)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Effect of a peer role playing simulation on the competency of medical students in performing musculoskeletal physical examination and clinical reasoning

#### AUTHOR(S):

- Kazuyo Yamauchi, Tokyo Women's Medical University, Japan (Presenter)
- Yoko Hagiwara, Tokyo Womens Medical University, Japan
- Yoshinori Nagata, Tokyo Womens Medical University, Japan
- Saori Kubo, Tokyo Womens Medical University, Japan
- Ken Okazaki, Tokyo Womens Medical University, Japan
- Yumiko Okubo, Tokyo Womens Medical University, Japan

#### ABSTRACT

**Background:** The traditional medical education curriculum in Japan includes insufficient opportunity for students to develop competency in musculoskeletal physical examination, clinical reasoning, and diagnosis, with the majority of residents reporting a lack of confidence in performing these tasks. Our aim was to assess the effectiveness of a peer role playing simulation education module in improving these skills among 90 of 112 female medical students completing their first Orthopaedic clinical clerkship.

**Summary of Work:** Participants were randomly allocated into two groups, one participating in the simulation-based module (simulation group, N=64) and the other not participating in this program (no simulation group, N=26). Effectiveness was assessed using the mini Clinical Evaluation Exercise (mini-CEX) as formative assessment and performance on an objective structure clinical examination (OSCE) as summative assessment for musculoskeletal case. The simulation-based module included 2 sessions, the first being a semi-structured encounter with a role playing for musculoskeletal cases and the second, a structured debriefing with the course instructor.

**Summary of Results:** The mini-CEX scores for the real-life MSK encounters were higher for the simulation than non-simulation group (Physical examination:  $P=0.0053$ , Clinical reasoning:  $P=0.027$ , Overall:  $P=0.0032$ , 95% confidence interval). Another result, the total OSCE score was not significantly difference between the simulation group and the non-simulation group ( $P=0.053$ ). The simulation-based module using peer role playing increased the mini-CEX scores for real-life patients presenting with musculoskeletal complaints, not increased total OSCE scores.

**Discussion and Conclusions:** Simulation-based instruction (combining peer role playing and instructor feedback) was effective in improving the skill of students with MSK physical examination, clinical reasoning, and diagnosis during their Orthopaedic clerkship. The multiple assessment opportunities provided by using the mini-CEX may have been beneficial in improving learning outcomes. To achieve competency and establish of clinical skills for learners using peer role play, the ingenuity is necessary for formative feedback and debriefing methods. However, further research being required to identify optimal SBME opportunities to master and retain skills.

**Take-home Messages:** (1) Practical training of peer role playing and formative feedback from one instructor promotes a short-term achievement of clinical skills competency. (2) Peer role playing in simulation based medical education is one learning method of clinical skills considering cost benefit.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL10 (3308)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### “What do all those numbers and images mean for my patient?”: A junior doctor led near-peer teaching programme to develop medical students’ clinical reasoning

#### AUTHOR(S):

- Viktoriya Boncheva, NHS Greater Glasgow and Clyde, UK (Presenter)
- Saif Khan, NHS Greater Glasgow and Clyde, UK
- James Boyle, NHS Greater Glasgow and Clyde

#### ABSTRACT

**Background:** The use and interpretation of clinical data is a core element of clinical reasoning (CR). A recent study highlighted CR as the weakest area of student performance on OSCEs. Our aim was to develop a small group near-peer teaching (SGNPT) scenario-based programme to enhance data interpretation by medical students in their clinical years.

**Summary of Work:** In partnership with Glasgow Medical School, core “data interpretation” topics were identified, from the intended course learning outcomes. These were developed into hour-long, lunch-time SGNPT scenario-based sessions. Partnering with the West of Scotland Near-Peer Teaching Programme, a tutor training day course was offered to 69 junior doctors that we recruited. A pilot session on systematic interpretation of chest radiographs (scenario-based) was delivered to nineteen fourth-year medical students by seven junior doctors. Anonymised student feedback was collected (n=19). Students’ confidence in chest radiograph interpretation was assessed pre- and post-session using a Likert-type scale (1 (low) to 5 (high)). Monthly sessions will be continued to gather more data.

**Summary of Results:** A significant increase in self-reported confidence post-session was noted in all participants (p 0.0001), with pre-session scores of 1 (5%), 3 (84%) and 4 (11%) and post-session scores of 4 (79%) and 5 (21%). All students rated the session enjoyable and useful (based on yes/no questions). The seven tutors delivering the session, provided positive feedback; finding it “enjoyable” and “useful” with all “interested in teaching again”. Tutors also commented subjectively on students’ increasing confidence and improvement in interpretation skills throughout the session.

**Discussion and Conclusions:** This SGNPT scenario-based programme complements the local medical school’s curriculum, providing a clinical context to data interpretation. It offers an opportunity to improve medical students’ CR and bridge the gap between medical students and senior clinicians. Once the core data interpretation topics are developed, this scheme will be easily rolled out to all years and locations, making it accessible to all students.

**Take-home Messages:** Utilising SGNPT to provide junior doctor led structured data interpretation scenario-based sessions to medical students contributes significantly to developing their confidence and CR skills.



## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL11 (401)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Using a case-based framework to improve teaching and learning clinical reasoning for preclerkship students in Taiwan

#### AUTHOR(S):

- Yaw Don Hsu, Tri-Service General Hospital & National Defense Medical Center, Taiwan (Presenter)
- Hui Chen Lin, Tri-Service General Hospital & National Defense Medical Center, Taiwan
- Chin Sheng Lin, Tri-Service General Hospital & National Defense Medical Center, Taiwan
- Jiunn Tay Lee, Tri-Service General Hospital & National Defense Medical Center, Taiwan
- CY Cheng, Tri-Service General Hospital & National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** Clinical reasoning (CR) should be taught in early medical school. However, it is not explicitly addressed in our medical school curriculum early. In order to build the fundamental concept of CR for preclerkship students, we use case-based frameworks to teach preclerkship students before they contact the real patients.

**Summary of Work:** Subjects were 62 preclerkship students, using a flipped classroom approach to teach CR skill. In pre-class, preclerkship students were given a PowerCam to learn introduction of CR, a case-based framework to practice CR in a small-group, which was directed by instructor to practice CR in-class. Before and after class, all subjects completed a serial of questionnaires assessing attitude, motivation and satisfaction (5-point Liker scale), and final course achievement.

**Summary of Results:** The results showed that this strategy in teaching CR significantly increase students' motivation, attitude ( $p < 0.05$ ), higher satisfaction rate ( $4.21 \pm 0.74$ ) and better achievement performance ( $83.74 \pm 14.56$ ) in learning CR. It also gave the learner's current abilities, to foster a sense of higher self-efficacy (83%) in realizing CR process. Most of learners showed an active discussion in-class under instructor help.

**Discussion and Conclusions:** The case-based frameworks could assist in teaching preclerkship students' CR, so that most of them could explicitly discuss CR processes and well integrate with basic science knowledge. Less complexity and authenticity case-based content setting definitely promoted students' motivation and changed their attitude to learn CR. It was also easy for them to realise the CR process and got better achievement. In conclusion, In order to promote preclerkship students motivation and create an easy way to learn CR, using less complexity of authenticity case-based content setting to teach CR proved to be a good strategy, and could easily achieve the goal.

**Take-home Messages:** It is believed that CR teaching should start early in the medical education, and using the case-based framework teaching while gradually increase the complexity of contents can increase student's clinical experience, so that they can take care of patients with less supervision over time.

## #5LL Posters - Clinical Reasoning & Decision Making

5LL12 (2331)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Synergic combination to improve medical thought: We must teach clinical reasoning coupled with debriefing

#### AUTHOR(S):

- Daniel Contreras Reyes, Universidad de Chile, Chile (Presenter)
- Leonardo Pérez, Universidad de Chile
- Claudia Arancibia, Universidad de Chile
- Sergio Bozzo, Universidad de Chile

#### ABSTRACT

**Background:** Clinical reasoning is the heart of medical thought. However, just few clinicians manage to share their own processes of clinical reasoning, because clinicians differ from clinical teachers. Through of Debriefing, both instructor and student share their own perspectives or mind maps that allow them think about mistakes and successes. Therefore, the models of clinical reasoning must be formally discussed during the debriefing. Nonetheless, this issue has not been deeply studied. We propose that students learning improves when the instructor is a clinical teacher capable of formally guides and reinforces the clinical reasoning process during debriefing.

**Summary of Work:** Medical students participated in high fidelity simulation assessment developed with three clinical encounters with simulated/standardized patients (acronym ECLIPSE in Spanish), such as a real patients medical consultation. Subsequently, the debriefing was carried out through the method of good judgment with a clinical teacher. In a subgroup the concept and models of clinical reasoning were formally discussed during debriefing. To determine whether learning process is improving, we evaluated through a Likert 1-5 survey the benefit perception of this strategy and Debriefing Assessment for Simulation in Healthcare®- Student Version (DASH-SV). Both surveys were filled after debriefing.

**Summary of Results:** 28 students answered voluntarily both surveys. Clinical reasoning topic and scope had not been discussed with teacher before for 42.86% (12/28). For all of them, discussing the topic Clinical Reasoning in debriefing is a contribution to identify and improve mental processes, hypotheses and differential diagnoses (agree 14/28 and strongly agree 14/28). Besides, they all considered clinical reasoning should be included formally at the curriculum. The subgroup that formally discussed the issue with a clinical teacher before (16/28) had a better perception of benefit compared to the other group.

**Discussion and Conclusions:** Students perceive the formal discussion of clinical reasoning during debriefing session as a contribution to improve. The clinical teacher must understand how doctors think to articulate their own clinical reasoning in a skillful and didactic way and to be able to teach their students to build their own.

**Take-home Messages:** Must teach clinical reasoning coupled with debriefing.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL13 (1220)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of clinical reasoning competency using virtual clinical training among baccalaureate nursing students

#### AUTHOR(S):

- Shu-Yu Kuo, School of Nursing, College of Nursing, Taipei Medical University, Taiwan (Presenter)
- Hui-Wen Chen, School of Nursing, College of Nursing, Taipei Medical University, Taiwan
- Jen-Chieh Wu, Department of Emergency, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Clinical reasoning skills is crucial for patient safety in nursing practice. Effective strategy for developing clinical reasoning are therefore important for nursing students. The aim of this study is to examine whether utilization of virtual clinical patients in clinical practicum is beneficial for clinical reasoning competence in nursing students.

**Summary of Work:** A total of 103 nursing students participated in this study, including 67 students in the group one, and 36 students in the group two, respectively. Students in the group one completed a 120-hour clinical practicum and virtual patient training, while the ones in group two received virtual patient training only. Critical thinking skill was measured using the 20-item Chinese version of Critical Thinking Inventory Scale with a six-point Likert scale (ranging from 1 'no' to 6 'always') at baseline and after the training program. Clinical reasoning competency was assessed using the objective, structured clinical examinations (OSCE) consisted of chart assessment, physical examination, and nursing diagnosis and intervention stations after the training course. Participants' satisfaction regarding virtual clinical training was measured.

**Summary of Results:** After training program, the students in group one had significantly better critical thinking (mean difference =3.5,  $p < 0.001$ ), while the students in group two showed the trend of improving critical thinking (mean difference =2.8,  $p = 0.06$ ). The results of OSCE indicated that a significant difference in the clinical reasoning competency between the group one (mean= 66.2, SD= 11.3) and group two (mean=57.1, SD= 15.1) ( $p < 0.005$ ). The average of satisfactory score was 4.2 in a five-point scale for both groups.

**Discussion and Conclusions:** Combining virtual patient training in the clinical practicum are effective in enhancing clinical reasoning and critical thinking skills in nursing students. By using virtual patient training alone is helpful in cultivation of critical thinking skill. Computerized virtual patient is effective in enhancing the critical thinking skills among baccalaureate nursing students.

**Take-home Messages:** The use of computerized virtual patient training in clinical practicum education is effective in development of clinical reasoning skills in nursing students.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL14 (283)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Assessing shared decision-making skills of 3rd year medical students

#### AUTHOR(S):

- Lucille Ong, Academic Medical Centre, the Netherlands (Presenter)

#### ABSTRACT

**Background:** Around 70% of patients want to be involved in their care. Shared decision-making (SDM) meets this need. Furthermore, it has a positive effect on patient: satisfaction, participation and adherence to treatment. Also, it diminishes decisional conflict in patients as well as overtreatment.

**Summary of Work:** We teach our 3rd year medical students a 5-phase SDM model. The five phases are: 1. Start: creating 'choice awareness' 2. Informing the patient about the options with pros and cons 3. Deliberation: which considerations play a role? 4. Preference 5. Decision: which treatment best fits the patients needs and expectations? During two intensive classes with only 6 students, all students practice this SDM model with (trained) simulation patients. At the end of their third year, assessment of SDM skills takes place. Assessment procedure: video recordings of students conducting SDM consultations with simulation patients are made and uploaded in students portfolio. Furthermore, students provide written reflections on self-selected events in their consultation. Students both provide and receive peer-feedback (reflective portfolio assignment). Also, the recorded SDM consultations are assessed by trained teachers. Summative assessments are categorized as: below expectations (4-5), meets expectations (6-7-8), and above expectations (9-10). Results of this years assessment are described below.

**Summary of Results:** A semi-structured rating list was developed to assess SDM skills of 360 medical students. The average assessment was 7,0 (out of 10). 24 students (7%) failed, whereas 22 students (6%) performed above expectations. The majority of students (87%) performed at 'meets expectations' level. All students fulfilled their reflective portfolio assignment.

**Discussion and Conclusions:** SDM skills are essential for good (clinical) practice. When practiced effectively, SDM can determine the treatment option which best fits patients' needs and expectations. Practicing SDM however, is a challenge for most clinicians. Ideally, SDM training should be implemented in their medical education. In our hospital therefore, we offer a 4 hour SDM training for residents, medical specialists, and nurses. Our 5-phase SDM model can be used to teach shared decision making skills. Students manage well with this model. We also conclude that shared decision making skills can be assessed using a semi-structured rating list.

**Take-home Messages:** Shared decision-making skills can be taught and assessed.

## #5LL Posters - Clinical Reasoning & Decision Making

5LL15 (2479)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Clinical Decision-Making in Geriatric Emergency Medicine: A Systematic Review

#### AUTHOR(S):

- **Maria Louise Gamborg, Center for Health Sciences Education, Faculty of Health, Aarhus University, Denmark (Presenter)**
- Peter Musaeus, Center for Health Sciences Education, Faculty of Health, Aarhus University, Denmark
- Mimi Mehlsen, Department of Psychology, School of Business and Social Sciences, Aarhus University, Denmark
- Charlotte Paltved, Department of Clinical Medicine, Faculty of Health, Aarhus University, Denmark

#### ABSTRACT

**Background:** Clinical Decision-Making (CDM) traditionally refers to the cognitive processes involved in making clinical decisions. The ability to make competent clinical decisions in Emergency Medicine (EM) is challenged by high levels of uncertainty and task complexity. With a growing geriatric subgroup in EM, new challenges arise, especially for Post-Graduate Year 1 (PGY1) residents, whom are sparsely trained for this group of patients. This review explores the empirical literature on CDM in geriatric EM (GEM). It aims to describe the state of research in this field, in order to identify learning objectives for training PGY1 residents.

**Summary of Work:** A systematic search of terms related to CDM and EM was performed on title or abstract in PubMed, ProQuest, Scopus, EMBASE and Web of Science. Search terms related to geriatrics was searched in the entire manuscript to allow inclusion of articles that did not exclusively address geriatric patients. Title and abstract were screened for 622 peer-reviewed manuscripts, excluding ones if not empirical, in a Scandinavian or English language, or did not address all search terms. 134 full manuscripts were screened for eligibility.

**Summary of Results:** Preliminary results based on 32 full text manuscripts suggest that the majority of studies is quantitative, mostly investigating CDM tools to assist clinicians in making more accurate decisions. The qualitative studies primarily investigate which specific information is used when making clinical decisions. As such, the empirical literature does not reflect the theoretical background, in addressing the cognitive processes underlying CDM itself.

**Discussion and Conclusions:** Initial results indicate that the understanding of the cognitive processes underlying CDM in GEM is not well described. When training PGY1 residents to make complex decisions under uncertainty, it is not enough to know when competent decisions are made, but also how they are made. Further empirical work is needed to understand the process itself, in order to prepare our future clinicians to care for the 'baby boomers'.

**Take-home Messages:** In order to develop CDM learning objectives in GEM to train PGY1 residents, a better understanding of the CDM process is needed, than what is currently available in the empirical literature.



## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL16 (639)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Healthy Volunteers Role-play Helped Training of Patient Decision Aids (PDAs) Implementation in the Simulation of Shared Decision Making (SDM)

#### AUTHOR(S):

- **Chiung-hsi Tien, National Defense Medical Center, Taiwan (Presenter)**
- Pei Liu, Tri-Service General Hospital, Taiwan
- Cheng-Tau Chen, Tri-Service General Hospital, Taiwan
- Chih-Ying Tu, Tri-Service General Hospital, Taiwan
- Cheng-Jueng Chen, Tri-Service General Hospital, Taiwan
- Cheng-Yi Cheng, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** Shared decision making is a new concept that the healthcare system in Taiwan has adopted since 2016. Patient engagement is a central part of designing and implementation of patient decision aids in clinical settings. Role-play is a method of simulation used commonly to teach communication skills.

**Summary of Work:** Thirty medical teams implemented department-based designed PDAs in 40-minutes simulation in OSCE center in August 2018. Volunteers were recruited and trained by a short curriculum of SDM. Volunteers were asked to role-play in the simulated clinical encounters of PDAs designed for, and the encounter topics were assigned by themselves based on their favor and own life experiences. Questionnaires evaluated the health literacy of the volunteers and collected their feedbacks to PDAs and the process of SDM. The anxiety of the volunteers to the PDA topics was assessed pre- and post-simulation. The performance of medical teams was rated by measurement adopted from Observer OPTION 5 Measure.

**Summary of Results:** Twelve healthy volunteers participated in the department-based simulation activities. In team performance measurements, item 1 (alternate options) had the highest average score, while item 5 (integrating preference) had the lowest. Item 1 also had the highest rate of teams reached 7.5 indicating skilled effort in the simulation, while item 5 also had the lowest. In these simulations, the PDAs reduced the sim-patients' anxiety about the specific encounter topics. The average of satisfactory scores to PDAs and the SDM process were both high, regardless of the performance score of the teams.

**Discussion and Conclusions:** The content of PDAs and the skills performing SDM by teams of different departments could be examined by adopted measurement efficiently in volunteer role-play. The engagement of healthy volunteers by role-playing in the simulation of department-based clinical encounters helped to identify the skills of medical teams and the fitness of content of PDAs in SDM.

**Take-home Messages:** Volunteer-involved simulation with adequate assessment helps training the skills of the medical team with implementation of PDAs in SDM.

## #5LL Posters - Clinical Reasoning & Decision Making

5LL17 (2435)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Anchoring and Outcome Biases in Medical Trainees and Providers

#### AUTHOR(S):

- Aron Liaw, University of California, San Francisco, USA (Presenter)
- Matthew Welsh, University of Adelaide, Australia
- Hillary Copp, University of California San Francisco, USA
- Benjamin Breyer, University of Adelaide, USA

#### ABSTRACT

**Background:** Cognitive biases are a potential source of error in decision making, and understanding them is especially important not only for minimising mistakes, but to inform medical education. The anchoring heuristic - arising when respondents make a numerical estimate close to a given anchor value - has been shown to bias medical decision making even when the anchor is an irrelevant value. Outcome bias describes the tendency to judge the quality of a decision by the outcome rather than the facts surrounding the decision. Doctors have shown outcome bias regarding their own decisions, which has implications for education and the process of lifelong learning.

**Summary of Work:** Medical students and practitioners were recruited via Facebook and by direct email to postgraduate training departments around the US. Participants took a survey including the Medical Risk Tolerance Scale, 10-point Decision Styles Scale, and questions regarding anchoring or outcome bias. Bias questions included both medical scenarios and non-medical questions. Outcome bias was assessed with regards to surgical risk and outcomes.

**Summary of Results:** 305 responses were received in total. Anchoring bias was seen in providers at all levels of training, and did not vary with expertise. Bias increased as the expertise of the source increased. Outcome bias declined slightly with training, and surgical specialists showed no outcome bias when assessing high surgical risk. There was little variation in Rationality and Intuition scores measured by the DSS. Residents and fellows showed more risk tolerance than students or physicians.

**Discussion and Conclusions:** Medical students, trainees and physicians show similar levels of anchoring and outcome bias regardless of their level of training, suggesting that experience alone is not protective against these biases. Anchoring bias also increases with a more experienced source, suggesting a measure of authority bias as well. Surgical specialties showed no outcome bias when assessing high surgical risk cases, indicating a possible effect of training to overcome bias. Rationality and Intuition scores were overall similar, probably as a result of a highly selected population.

**Take-home Messages:** Doctors and students are vulnerable to common cognitive biases, and medical training alone does not necessarily prevent them.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL18 (587)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Teaching Critical Thinking with Osler Techniques

#### AUTHOR(S):

- Pongsakorn Srichan, Surin Medical Education Center, Thailand (Presenter)
- Chawalit Chayangsu, Surin Medical Education Center, Thailand
- Praphan Yodnopaklow, Surin Medical Education Center, Thailand

#### ABSTRACT

**Background:** Formal patient history taking without critical thinking may contribute to diagnostic error. We developed Osler techniques by reviewing practical wisdoms from old-school master clinicians. Techniques consist of “walking through event” “perceptual memory” “retrospective physical examination” “the power of patient own words” and “human reaction to disease”. The aim of this study is to evaluate the perception of medical students to use Osler techniques.

**Summary of Work:** Fourth year medical students learned Osler techniques as a part of critical thinking program during clinical year. After one year practicing Osler technique parallel with formal history taking, the questionnaire was used to evaluate the perception of students.

**Summary of Results:** Twenty-seven medical students responded to the questionnaire. The “retrospective physical examination” and “walking through event” were two most understanding by students 64.7% and 62.5% respectively, three-fourths misunderstood “the power of patient own words” “human reaction to disease” and only 1.7% of them understood “perceptual memory”. However, seventy-four percent of medical students agree that patient history taking with Osler technique should reduce diagnostic error and enhanced critical thinking skill.

**Discussion and Conclusions:** Most of medical students know five Osler techniques but they understand and properly use with two techniques. Like other learning skills, students need understanding and deliberate practice of these techniques by feedback and assessment. Overall, they understand more about the important of listening to patients for making correct diagnosis. Teaching Osler techniques should be included in the critical thinking program.

**Take-home Messages:** Teaching Osler technique may help critical patient data gathering and reducing diagnostic error.

## #5LL Posters - Clinical Reasoning & Decision Making

5LL19 (917)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The development of clinical thinking in junior doctors

#### AUTHOR(S):

- Rachel Locke, University of Winchester, UK (Presenter)
- Alice Mason, Health Education England through Wessex, UK
- Colin Coles, University of Winchester, UK
- Rosie Lusznat, University of Winchester, UK
- Mike Masding, Health Education England through Wessex, UK

#### ABSTRACT

**Background:** Currently we have limited knowledge about the contextual factors which serve to best develop clinical thinking amongst postgraduate medical trainees. This study explores how Foundation doctors acquire the capability to think appropriately so as to practise effectively in a clinical setting. It considers three specialities in particular, namely Emergency Medicine, General Practice, and Psychiatry, as these have been shown previously to report active engagement with their seniors regarding 'clinical thinking'. Two main research questions are: 1. Do Foundation doctors working in the three clinical fields already identified develop their clinical thinking more than elsewhere? 2. What are the factors in placements that appear to be associated with this development?

**Summary of Work:** The research is located within the 'non-positivist' paradigm (Golby & Parrott, 1999). The experiences of nineteen educators have been captured for the purposes of this study via in-depth research interviews. Rich qualitative data derived from the interview transcripts have been analysed thematically in a rigorous and iterative process.

**Summary of Results:** Preliminary findings suggest the importance of community (of trainers and of trainees, as well as the workplaces), collegiality (we are all still learning, and we are learning together; we are fallible, its about dealing with uncertainty), and criticality (we encourage trainees to look at their own practice, as we look at our own, we discuss cases between ourselves, its about risk).

**Discussion and Conclusions:** The mind-set of the people who work in the identified specialties is one that embraces (and enacts) what may be considered as educational ways of thinking and being. Factors that appear to be associated with the development of clinical thinking include a close proximity between the Foundation doctor and their senior(s) and the creation of a safe trajectory to independence by the educators for Foundation doctors.

**Take-home Messages:** The 'context' in which a medical trainee learns is crucial to what is learnt and how it is learnt. (2) Much of this learning happens naturally within the learner's everyday working environment. (3) There needs to be a culture supportive to learning, and educators have a significant role in reinforcing and sustaining that culture.

## #5LL Posters - Clinical Reasoning & Decision Making

### 5LL20 (3435)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Engaging medical students in reflective practice - can we do it better?

#### AUTHOR(S):

- **Mariam Koronfel, King's College London, UK (Presenter)**
- Afra Jiwa, Kings College London, UK
- Edward Fenby, Kings College London, UK
- Eugene Ace McDermott, Kings College London, UK

#### ABSTRACT

**Background:** The importance of reflective practice for health professionals has been frequently reported in literature with most medical schools now incorporating learning modules that encourage undergraduate student participation in the process of reflection. However, various barriers to effectively teaching reflective practice have emerged with the authenticity of the exercise depending on aspects such as its incorporation in the education programme and its relevance to the needs of the student at the time.

**Summary of Work:** A primary literature search of peer-reviewed articles on PUBMED and MEDLINE was conducted to assess current research on reflective practice in the medical curriculum and the barriers that have been identified. A secondary search was carried out to identify the most effective ways in incorporating reflective practice in the medical curriculum.

**Summary of Results:** Engaging medical students in reflective practice has been shown to promote deep learning, improve core medical knowledge and enhance academic performance in social and community medicine. It has also been suggested that it can better improve relationships both with patients, as well as, between student and supervisor. However, establishing relevance of the reflective exercise, teaching learners about reflection, and assessment and feedback of reflections have been identified as the key factors preventing students from effectively engaging in reflective practice and reaping the associated learning and development opportunities embedded in the curriculum.

**Discussion and Conclusions:** Intended effort needs to be carried out to deeply embed reflective practice in the learning medical programme, as well as the wider medical practice. Crucial steps for this to be achieved include, supervisors embodying and modelling reflective practice, learn about guided reflection for undergraduates and how to assess reflection. The need for a standard tool to evaluate the current methods of assessment of reflection as well as set a framework for effective reflective practice is paramount in valuing and embedding this important skill in tomorrow's doctors.

**Take-home Messages:** A standardised framework of incorporating reflective practice into the medical curriculum should be used in order to effectively teach and demonstrate reflective practice.



## #5MM Posters - Postgraduate: Education General

### 5MM01 (158)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The establishment of research mentoring program for residents

#### AUTHOR(S):

- **Miyuki Takahashi, Aichi Medical University, Japan (Presenter)**
- Nobutaro Ban, Aichi Medical University, Japan
- Katsuhisa Waseda, Aichi Medical University, Japan
- Kunio Kasugai, Aichi Medical University, Japan

#### ABSTRACT

**Background:** It has been pointed out that Japan's recent research performance has stalled over the past decade. According to a survey by the Ministry of Science and Technology, numbers of young scientists are declining in Japan. Even in the medical field, it is a serious problem. The training program of Japanese residents may be attached importance to acquire clinical skills and insufficient for promoting their scientific curiosity. Efforts has been started to promote scientific curiosity of residents in our postgraduate clinical training center using an original research mentoring program.

**Summary of Work:** We put a full-time doctor in our postgraduate clinical training center as a research mentor from August 2018. Research meetings hold once a week. 46 residents joined this program and they were recommended try to find a theme of their own research among the day-to-day practice. They were obliged to participate in ethics committee in our institute. After passing ethical review, residents started their research. We recommended them to report about results of their research in three months. Residents could receive advice from many experts. The results were evaluated in a questionnaire survey and an interview. The number of papers written by residents were also evaluated.

**Summary of Results:** A few residents finished their clinical research and tried to write original article. In addition, a few groups has written case reports. This work is enough to make motivation to other residents and mentors. Questionnaire survey also indicates a research mentoring program influences the pursuit of academic medicine careers. Interviews revealed a distinctive personality of residents who especially got into a research.

**Discussion and Conclusions:** Some studies have revealed mentoring program may influence career planning, academic productivity, and most notably, the pursuit of academic medicine career. Not to crush the possibility of young people, we should develop functional research mentoring program for residents. As the training program of Japanese residents may be attached importance to acquire clinical skills, we should develop our training program that they can also acquire basic research skills and minds.

**Take-home Messages:** If residents can make use of an opportunity immediately, they may open an infinite of possibilities. Strike while the iron is hot.

## #5MM Posters - Postgraduate: Education General

### 5MM02 (2438)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

## Colleague Supervision of Research Degree Studies as Professional Development

### AUTHOR(S):

- Linda Crane, Bond University, Australia (Presenter)
- Gary Hamlin, Bond University, Australia

### ABSTRACT

**Background:** Over recent years there has been increasing attention to postgraduate student experience including the experiences of research students. A major element of this focus has been to improve supervisory experience and training. Coincident with this focus has been an increase in expectations of universities with respect to academic staff members possessing research higher degree qualifications - increasingly health professionals joining academe are required/choose to enroll in a PhD as professional development for their academic role. The experiences of academics undertaking PhD research programs and the PhD qualified academics who supervise their colleagues (colleague supervision) is an important dynamic which warrants further understanding.

**Summary of Work:** The work distills findings from multiple sources including: (i) an Australian Government Department of Education and Training, National Strategic Priority Project, which explored good practice in postgraduate education from perspectives of educators and students; and (ii) a pilot program supporting a small number of early career professionally qualified academics who through their own agency sought out mentoring whilst enrolled in a higher degree by research.

**Summary of Results:** A range of strategies to support good practice in colleague supervision are described within the broad areas of: (i) strengthening links between academia and industry; (ii) ensuring human resource and performance management/development policies are appropriate; (iii) developing innovative models of supervision and student support that support colleague supervision situations; (iv) development of self-identity and self-management strategies for individuals in a colleague supervisor situation.

**Discussion and Conclusions:** The dynamics between individuals in colleague supervision situations can be complex and require proactive strategies to maximize success for the student and supervisor(s). Development of these strategies across all levels from individual to institutional and involving industry partners external to academia will enhance the experience during candidature, outcomes for completion and future research success.

**Take-home Messages:** Colleague supervision is an important, and growing component of good supervisory practice. Greater attention to supporting those in these relationships can maximize the benefits for the individuals, academia and industry partners.

## #5MM Posters - Postgraduate: Education General

### 5MM03 (2958)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Fostering residency research skills through a multi-mentoring system

#### AUTHOR(S):

- Jirawat Moolasart, Sanpasitthiprasong Hospital, Thailand (Presenter)
- Parinya Chamnan, Sanpasitthiprasong Hospital, Thailand
- Piyawadee Wuttikonsammakit, Sanpasitthiprasong Hospital, Thailand
- Saranya Prathaithep, Sanpasitthiprasong Hospital, Thailand
- Orathai Srisawang, Sanpasitthiprasong Hospital, Thailand

#### ABSTRACT

**Background:** Research is an important part of residency training. Learning how to do research has traditionally been through working with a single clinical supervisor, which may not be adequately comprehensive. A new system based on simultaneous integrated consultation by a multidisciplinary team of supervisors called 'Multi-mentoring system for residency research' has been initiated for Sanpasitthiprasong residency training program since 2013. This study aimed to describe outputs and outcomes of this new approach to mentoring residency research.

**Summary of Work:** The multi-mentoring system for residency research at Sanpasithiprasong Teaching Hospital was run by a multidisciplinary team of multiple supervisors with different expertise, from clinicians, research scientists to epidemiologists. This on-the-job training which included regular pre-scheduled consultation sessions provided residents opportunities to develop essential research skills alongside the progress of their research from setting a research question and proposal development to conducting and reporting research, all of which were closely and simultaneously supported and monitored by multiple advisors. We described research outputs in terms of the number of projects over 5 years, study designs, presentation at scientific conferences and successful peer-reviewed publications.

**Summary of Results:** Over 5 years, there was a steady growth in the number of residents participating in the multi-mentoring system from 3 in 2013 to 15 in 2018, with a total of 42 residency research projects from five major clinical specialties and two minor specialties. The large majority of the residency researches were observational analytical studies (n=26), mainly retrospective cohort based on medical records review, followed by 10 descriptive studies and 6 randomized control trials. All residents reported high satisfaction toward this new mentoring system. 28 (66.7%) researches were presented at national level scientific meetings, while only 4 (9.5%) researches were published in peer-reviewed journals.

**Discussion and Conclusions:** This innovative approach to mentoring residency research was effective to enhance residency research skills and research outputs with satisfactory quality designs. However, strategies to facilitate more peer-reviewed publications from residency research are needed.

**Take-home Messages:** Learning research skills through working with a multidisciplinary team is effective.

## #5MM Posters - Postgraduate: Education General

### 5MM04 (1042)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### U.S. MD-PhD program graduates' engagement in research: Results of a national study

#### AUTHOR(S):

- **Dorothy Andriole, Association of American Medical Colleges, USA (Presenter)**
- Douglas Grbic, Association of American Medical Colleges, USA
- Jodi Yellin, Association of American Medical Colleges, USA
- Ross McKinney, Association of American Medical Colleges, USA

#### ABSTRACT

**Background:** As MD-PhD joint-degree-program graduates enter an increasingly broad range of specialties, we sought to determine if MD-PhD graduates' early-to-mid-career research engagement differed by specialty.

**Summary of Work:** Using a database of individualized records of U.S. medical-school MD-PhD graduates' responses to the 2015 Association of American Medical Colleges (AAMC) national MD-PhD program graduates' survey and selected data from the AAMC's Graduation Questionnaire, Student Records System and Graduate Medical Education (GME) Track, we tested a set of demographic and professional-development variables in logistic regression, identifying predictors of research (vs. no research) engagement among all graduates and in linear regression, identifying predictors of % time in research among graduates engaged in research.

**Summary of Results:** Of 3,297 1991-2010 MD-PhD graduates no longer in GME, 78% (2,572/3,297) reported research engagement. Research-related (vs. clinical practice) career intention at graduation (adjusted odds ratio [AOR]=2.98, 95% confidence interval [CI]=2.12-4.20), ≥1 year(s)-GME-research participation (AOR=2.52, 95% CI=2.00-3.18) and neurology specialty (vs. internal medicine [IM], AOR=1.52, 95% CI=1.62-3.91) predicted a greater likelihood, whereas female gender (AOR=0.80, 95% CI=0.66-0.97) and dermatology specialty (vs. IM, AOR=0.34, 95% CI=0.23-0.52) predicted a lower likelihood, of research engagement. Among 2,572 graduates engaged in research, mean % research time was 49.94%. In linear regression, ≥1 year(s)-GME-research participation (Beta-coefficient [ $\beta$ ]=8.50,  $p < .01$ , equating to an estimated 8.5 percentage point difference) predicted a higher %, whereas female gender  $\beta$ =-4.84,  $p < .01$  and (each  $p < .01$  vs. IM) dermatology ( $\beta$ =-14.74), diagnostic radiology ( $\beta$ =-32.77) and surgery ( $\beta$ =-28.97) specialties (among others) predicted a lower %, research time.

**Discussion and Conclusions:** Most MD-PhD graduates were engaged in research, but extent varied considerably by specialty. IM and neurology departmental approaches to supporting physician-scientists' research engagement may serve as "best practices" examples. Career-planning during medical school and substantive GME-research participation may promote MD-PhD graduates' early-to-mid-career research engagement. Female gender independently predicted a lower likelihood, and a lesser extent, of research engagement.

**Take-home Messages:** Strategies to promote greater participation in research are needed for MD-PhD graduates in specialties beyond "traditional" MD-PhD specialties (neurology, IM, pediatrics, pathology). The gender gap we observed in MD-PhD graduates' retention in the research workforce beyond training completion warrants further investigation.

## #5MM Posters - Postgraduate: Education General

### 5MM05 (2312)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Gender helps regulate internship GPA grades and 360-degree assessment in PGY-1 training: A preliminary study at an Army medical center

#### AUTHOR(S):

- Ying-Chen Chen, Department of Pediatrics, Tri-Service General Hospital, National Defense Medical Center, Taiwan (Presenter)
- En Chao, Department of Health Promotion and Health Education, National Taiwan Normal University, Taiwan
- Shu-Ling Hwang, Center for General Education, National Defense Medical Center, Taiwan
- Tony Szu-Hsien Lee, Department of Health Promotion and Health Education, National Taiwan Normal University, Taiwan
- Jin-Shuen Chen, Department of General Medicine, Tri-Service General Hospital, Taiwan
- Chun-Chi Lu, Department of Internal Medicine, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** Gender bias in evaluations of Postgraduate Year One (PGY-1) competency was rarely inspected in army. 360-degree feedback allows PGY faculties accurately assess communication skills in addition to direct observation of procedural skills, in-training examination, mini-clinical evaluation exercise, the six core competencies, and case-based discussion. We aimed to analyze whether gender influences scoring systems of PGY-1 at a military hospital, where male physicians and female registered nurses (RNs) are extremely predominant respectively.

**Summary of Work:** A 7-year retrospective study was collected through 2012 to 2018, including seven cohorts of PGY-1 residents. Comments were collected at departments of internal medical, surgery, gynecology, pediatric and emergency medicine. Multiple regression analysis was used to determine how RNs and attending physicians evaluated PGY-1 residents, especially in the 360-degree assessment.

**Summary of Results:** Female or male PGY-1 residents who had higher grade point average (GPA) scales either in internship or medical school also had better performance in PGY-1. Using gender as a moderator, there is a stronger interaction in female PGY-1 residents between grades of internship GPA and of 360-degree assessment evaluated by RNs (gender:  $p = 0.024$ ; internship GPA:  $p < 0.001$ ; interaction:  $p = 0.024$ ; regression coefficient: female B of 2.431,  $p < 0.001$ ; male B of 0.675,  $p < 0.001$ ). We did not identify an interaction between internship GPA and 360-degree assessment ranked from male attending physicians when using the gender as a moderator.

**Discussion and Conclusions:** Gender of PGY faculties did not influence consistency of high-ranking performance of female students at medical school, internship and PGY-1 training at a conservative army medical center. The doctor-nurse relationship did not contribute to traditionally defined gender bias when female residents were inspected by female predominant RNs. Considering changed gender distribution of students and faculties, defining how gender delicately regulates PGY-1 residents' communication and interpersonal relationship with faculties and colleagues of the same and opposite gender is warranted at a conservative system.

**Take-home Messages:** Well trained PGY faculties have endeavored to provide students with consistent feedback and help guard against gender bias in their perceptions of residents' capabilities at a conservative medical center.



## #5MM Posters - Postgraduate: Education General

### 5MM06 (793)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Gender variation in Medical Specialties at biggest Med School in Mexico: 20 years

#### AUTHOR(S):

- **Maria de los Angeles Fernandez-Altuna, UNAM School of Medicine, Mexico (Presenter)**
- Salvador Gonzalez-Macias, UNAM School of Medicine, Mexico
- Mariela Mariela Ramirez-Resendiz, UNAM School of Medicine, Mexico
- Patricia Cruz-Mendez, UNAM School of Medicine, Mexico
- Irene Durante-Montiel, UNAM School of Medicine, Mexico
- German Fajardo-Dolci, UNAM School of Medicine, Mexico

#### ABSTRACT

**Background:** Womens enrollment is rising in medical schools. This phenomenon is also observed in medical specialties but not in the same proportion. Is important to investigate this trend at the school with the highest number of students in Mexico, UNAM School of Medicine (8,500 undergraduate students and 12,900 in medical specialties).

**Summary of Work:** Female participation in postgraduate enrollment (medical specialties) at UNAM School of Medicine during last 20 years was investigated using school records. Information was analyzed to observe changes over time and within each specialty. Results were compared with information from other parts of the world.

**Summary of Results:** Posgraduate enrollment in 2003 was 7,680: 43% women. In 2011 changed to 51% women and this proportion has been preserved until cycle 2017-2018 with 12,900 residents. Medical Specialties with higher percentage of women were Dermatology, Rehabilitative Medicine, Genetics, Anesthesiology, Rheumatology, Audiology, Neonatology, Pediatrics, Hematology, Geriatrics, Epidemiology, OB/GYN and Clinical Pathology. Specialties with more male participation were Urology, Neurosurgery, Sports Medicine, Cardiology, Plastic Surgery, Orthopedic Surgery, General Surgery and Nephrology. Specialties with a more even gender split include Psychiatry, Immunology/allergy, Emergency Medicine, Otolaryngology and Radiology. In general, medical subspecialties had higher percentage of women (particularly pediatric medical subspecialties), whereas chirurgic subspecialties had more men.

**Discussion and Conclusions:** Postgraduate enrollment has increased. Female postgraduate participation increment occurred 20 years later than the corresponding rise in undergraduate enrollment. This tendency has remained (49% males, 51% females). Percentage of women in specialties remains equal since 2011. Surgical specialties are preferred by men while some medical and pediatric subspecialties are preferred by women physicians in Mexico. We found some differences in specialties gender composition compared with USA and UK. Some specialties are preferred by women while others are a male ground. Some specialties are getting more females. Qualitative studies are required for better medical specialties education planning and policies.

**Take-home Messages:** There is an increase in the proportion of women studying in medical schools, particularly at UNAM School of Medicine in Mexico. This trend is not happening yet in medical specialties enrollment in the same proportion. These facts should be further studied to understand social, work and academic implications and to design specific educational strategies.

## #5MM Posters - Postgraduate: Education General

### 5MM07 (2503)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Challenge or opportunity: The importance of women in orthopedics

#### AUTHOR(S):

- Tatjana Topalovic, AO Foundation, USA (Presenter)
- Amy Kapatkin, University of California-Davis, USA

#### ABSTRACT

**Background:** Based on an identified gap of diverse leadership, within and beyond the AO Foundation (a medically guided, not-for-profit organization led by an international group of surgeons specialized in treatment of trauma and disorders of the musculoskeletal system), research was initiated to identify and overcome barriers, to promote diversity with a first focus on female leadership within the organization.

% of women holding faculty roles in the AO Foundation: f:~10% / m:~90%;

% of women holding governance and leadership roles in the AO Foundation: f:~4% / m:~96%;

% of women in orthopaedics (AAOS);

2012 Undergraduates: f: 58% m: 42%;

2014 Medical students: f: 47% m: 53%;

2014 Orthopaedic residents: f: 14% m: 86%;

% of women in surgical residency programs (USA 2014 Graduate Medical Education): 13.7% Orthopaedics; 15.9% Neurosurgery; 22.7% Urology; 24.7% Plastic surgery; 37.5% General surgery ;38.6% Colo-rectal surgery.

**Summary of Work:** The AO Foundation, a global education provider in the health sector, collected quantitative data which shows a lack of women holding faculty, governance and leadership roles, within the organization. Based on this identified gap using qualitative data, quantitative data continues to be collected for further identification and analysis of barriers and how to overcome these to promote diverse leadership within the organization.

**Summary of Results:** Research shows that diverse groups are more creative and effective in problem solving, making an organization more resilient and adaptable; leading to benefits in research and innovation, and increased funding opportunities leading to improved patient health care. Seeking to increase diversity and women in orthopedics, AO continues to collect data.

**Discussion and Conclusions:** What can AO do to change the existing culture? People in leadership positions serving as role models Expand data collection focusing on other diversities currently difficult to access Educate and motivate to create new behavior addressing peoples mindsets, scope and awareness (Ross, 2011).

**Take-home Messages:** AO is actively seeking to create a paradigm shift, increasing diversity and women in orthopedics. Identifying the diversity gap, and its barriers, leads to concrete steps to be developed and implement-ed to address the identified gap. This will allow people and organizations to transform, approaching diversity on a comprehensive rather than an event-based approach.

## #5MM Posters - Postgraduate: Education General

### 5MM08 (3315)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### From scaffolding to moulding in postgraduate medical training: A conceptual model for trainee-centered teaching

#### AUTHOR(S):

- Hadeil Morsi, Oxford University Hospitals, UK (Presenter)

#### ABSTRACT

**Background:** One of the grounding theories for Student-centred teaching is The Zone of proximal development which highlighted the unique learning potential for each student and the dynamic nature of this zone. Assessing this individual zone and supporting the trainee accordingly is the first pillar of scaffolding. The other two pillars are decreasing this level of support and handingover the regulation of learning to the student.

**Summary of Work:** Here I examined how well is scaffolding is applied in postgraduate medical training and more importantly if it is fit for purpose. A literature review of postgraduate medical training using the keywords scaffolding, assisted performance, zone of proximal development and cognitive apprenticeship model was conducted

**Summary of Results:** In summary the research on scaffolding in medical training was scarce and mainly in undergraduate teaching. Scaffolding was used interchangeably for supporting, without evidence of tailoring this support to the level of student. If dynamic scaffolding was offered, the focus was on the cognitive outcome only. More importantly, the decision on what is proximal enough for the student and when to handover the responsibility was directed by the teacher only without involvement of trainee.

**Discussion and Conclusions:** In summary, scaffolding in its full concept is not applied and further training of trainers is essential to implement it in postgraduate training. Nevertheless, there is a scope for revisiting the concept developed initially in children's language learning to fit trainee as adult learners, as they demand more autonomy and orientation. I propose a model where the trainee help the trainer in setting his educational zone. This zone encompasses the depth i.e complexity and breadth i.e. emotional and social aspects in addition to cognitive.

**Take-home Messages:** The best model is amending the CBD forms on eportfolio to involve what the trainee want to achieve, which aspect as alongside the trainer assessment. Pilot assessment of this model from a sample of trainees and trainer will follow.

## #5MM Posters - Postgraduate: Education General

### 5MM09 (2342)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

**“We spend most of the day at work with colleagues, but still don’t get a chance to connect”: Perceptions of a unique professional development program for physician trainees**

#### AUTHOR(S):

- Elke Hendrich, Western Health, Australia (Presenter)
- Agnes Dodds, University of Melbourne, Australia

#### ABSTRACT

**Background:** Opportunities for dedicated professional development training for junior doctors are limited in the workplace. Non-technical skills, integral to professional identity, learning and growth, are embedded within the workplace culture. Developing these skills amongst physician trainees, in an immersive weekend, sought to consolidate the group as learners and enable familiarisation of a learning community, challenged by multi-campus disbursement and rapid revolution team members. The weekend program was informed by theories of socio-cultural learning and professional identity development.

**Summary of Work:** All 72 basic physician trainees at Western Health were invited to a professional development retreat, of which 59 attended. Sessions focused on communication, leadership, teamwork, supervision and feedback. Trainees participated in group polling and were encouraged to document reflections and personal ‘take home’ messages, following the sessions. A survey, conducted 8 months post-weekend, evaluated trainees’ perceptions of the weekend and identified those areas which provided longer term utility. Quantitative analysis of poll data and survey responses along with thematic analysis, based on common concepts and themes used across the in-situ reflections, poll data and the survey, formed the basis of evaluation.

**Summary of Results:** Major changes in workplace relationships occurred with a significant increase in trainee familiarisation and socialisation. Differences were noted in the expectations and perceptions of leadership and teamwork by trainees from different year levels. Vertical and horizontal integration of trainees within a non-clinical environment had important effects on perceptions of teamwork and belonging to the community of practice of basic physician trainees.

**Discussion and Conclusions:** A group-based approach to learning and reflecting on essential professional skills in a non-clinical environment, resulted in significant positive effects on work-place relationships and perceptions of leadership, teamwork, supervision and feedback. Removing a cohort of trainees from the influences of the workplace, enabled authentic relationship development, essential to work place learning, culture and professional identity, across and within, an otherwise fragmented community of practice.

**Take-home Messages:** 1. Socialisation of basic physician trainees in an off-site location enabled the development of authentic workplace relationships. 2. These relationships translated into more positive workplace encounters, particularly handover, referrals and within treating teams. 3. Significant changes to planning learning and seeking feedback were identified.

## #5MM Posters - Postgraduate: Education General

### 5MM10 (2205)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Resistance, criticism, and solutions to the education online seminar

#### AUTHOR(S):

- **Olivia Espinosa-Vazquez, Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico (Presenter)**
- José Halabe-Cherem, Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico
- Gerard Heinze-Martin, Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico
- Liz Hamui-Sutton, Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico
- Angelica Licon-Villa, Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico
- German Fajardo-Dolci, Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico

#### ABSTRACT

**Background:** The online Medical Education Seminar (SemEdu, by its acronym in Spanish) is one of the four academic activities in the Unique Program of Medical Specialties. Is directed to 10,151 residents of 77 medical specialties in Mexico. The 7 units in the program develop several didactic activities centered on teacher training in clinical scenarios. SemEdu is a self-management platform, takes 40 hours, and may be completed in 3 months. The aim of this study was to identify the resistances and critics about the seminar and to present the implemented solutions.

**Summary of Work:** Quantitative and qualitative information was analyzed from the final satisfaction survey included in the seminar, in order to identify the reactions (first level of the evaluation scale of training programs from Kirkpatrick's model) of medical residents about this new educational proposal.

**Summary of Results:** About 3581 residents completed the seminar between July and December, 2018; 2144 of them answered the survey. 81.9% expressed that the platform's access and management were accessible; 79.4% considered the contents useful and understandable; 84.8% thought that evaluations were coherent and sufficient; finally, 74.5% reported that the length of each unit was adequate. The resistances and critics were identify from the free comments. Among the most frequent, medical residents mentioned: a) the thematic content was not applicable to their specialty context, b) the evaluations only required memory, c) time to complete the seminar was excessive, and d) there were countless didactic resources used. The implemented solutions were: a) diversify the examples in order to resemble several clinical contexts; b) verify the evaluation items using the online cognitive tasks model; c) adjust time by reducing readings and synthesizing contents; d) revise didactic resources and exercises in order to keep only those that integrate knowledge and practice, and could be applied.

**Discussion and Conclusions:** Teacher training is marginally promoted in a formal manner, even though it's part of the curriculum. Including this online seminar as a self-regulated activity compels the residents to reflect and practice medical education aspects.

**Take-home Messages:** Educational medical programs for residents must be concrete, simple and applicable to learning situations in clinical contexts.



## #5MM Posters - Postgraduate: Education General

### 5MM11 (1364)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Influence of Artificial Intelligence on Medical Postgraduates: A Multi-center Survey Study

#### AUTHOR(S):

- Patranit Nuntasilapachai, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand (Presenter)
- Pimpnipa Chaimongkonrojna, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand
- Nutnicha Pattanadee, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand
- Kullawan Chaichareonpong, Department of Family Medicine, King Prajadhipok Memorial Hospital, Chanthaburi, Thailand
- Jathurong Kittrakulrat, Khlung Hospital, Chanthaburi, Thailand

#### ABSTRACT

**Background:** Recently, artificial intelligence (AI) has been widely introduced into medicine. Although several studies have surveyed the impact of AI on medical students, the evidence regarding postgraduates' attitudes on AI is still lacking. This study aims to assess the perspectives regarding to impacts of AI on medical postgraduates after they have gained more experiences from their practice.

**Summary of Work:** An internet-based questionnaire consisting of demographic data, interested medical fields and various perspectives on AI was designed. In December 2018, these online surveys were distributed to medical postgraduates from sixteen medical schools in Thailand.

**Summary of Results:** Of all 66 respondents, 15 postgraduates (22.7%) declared internal medicine as the first choice of specialty. The second and third choices were surgery and paediatrics consecutively. Over one-third of them (37.8%) were familiar with AI, while only 4.5% did not know about AI. 32 general practitioners (48.5%) considered that AI would become a part of clinical practice especially in the role of disease screening. Of all respondents, 40.9% stated that medical specialists would not be replaced by AI, 54.6% considered AI as a new challenge for their medical training, and 73.9% of postgraduates insisted that AI developments would not change their choices of specialties.

**Discussion and Conclusions:** Although the development of AI would revolutionize medicine in the foreseeable future, this advanced technology might not affect medical postgraduates' preference on their choices of specialties. This might be explained by that the majority of them considered AI as assistance instead of substitution.

**Take-home Messages:** Most postgraduates did not consider AI in medicine as a threat but as assistance.

## #5MM Posters - Postgraduate: Education General

### 5MM12 (906)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical trainees' professional identity formation and experiences in the community of practice

#### AUTHOR(S):

- Masami Tagawa, Kagoshima University, Center for Innovation in Medical and Dental Education, Japan (Presenter)

#### ABSTRACT

**Background:** The ultimate goal of medical education for medical trainees is professional identity formation (PIF), of which, socialization in the community of practice is an important process. Based on Kegan's human development model, the author developed multiple instruments to evaluate personal development and socialization as a physician, as well as PIF stage-specific attributes. Survey data from these scales were then used to investigate the PIF process among medical trainees.

**Summary of Work:** To reveal medical trainees' PIF process and promoting factors, sixth-year medical students and second-year residents at Kagoshima University responded to a questionnaire survey from 2016 to 2018 composed of PIF scales and items regarding their experiences during clinical training, such as whether they were acknowledged as a physician by patients and families, whether instructors and health professionals responded to them respectfully, and whether they had role models and effective mentoring. The medical trainees' scale scores and experiences were then analyzed to identify significant factors for PIF.

**Summary of Results:** Response data from 186 sixth-year medical students and 46 second-year residents indicated that acknowledgement as a physician by patients and families and respectful responses from instructors were significantly correlated with overall PIF scores. In addition, significant correlations were observed between these experiences and medical students' stage 3 and residents' stage 4 scores. The existence of a role model was weakly correlated with stage scores, but no significant correlation with gender was observed for any PIF score.

**Discussion and Conclusions:** Analysis using scales evaluating the overall degree of PIF and different stage-specific attributes indicated that medical trainees' professional role experiences in clinical practice were important for their PIF. These experiences were related to socialization (stage 3 attributes) among medical students and independence (stage 4 attributes) among residents. These findings suggest that being viewed as playing an authentic professional role by patients and staff promotes PIF among medical students and residents.

**Take-home Messages:** These findings suggest that PIF among medical trainees can be analyzed quantitatively and that the formation of a professional relationship with patients, instructors, and health professionals in the community of practice is a promoting factor.

## #5MM Posters - Postgraduate: Education General

### 5MM13 (1173)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Incorporating training of nursing staff into hospice care in the nursing home: a short course

#### AUTHOR(S):

- Chih-Pang Chu, Department of Psychosomatic Medicine, Taipei City Hospital, Songde Branch, Taipei, Taiwan (Presenter)
- Hsing-Cheng Liu, Department of General Psychiatry, Taipei City Hospital, Songde Branch, Taiwan
- Hsiu-Ching Chen, Department of Nursing, Taipei City Hospital, Songde Branch, Taiwan
- Ting-Fang Chiu, Department of Teaching and Research, Taipei City Hospital, Taiwan
- Lin-Yang Chi, Department of Teaching and Research, Taipei City Hospital, Taiwan
- Da-Chen Chu, Department of Teaching and Research, Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** Since 2015, Taipei City hospital, Songde branch has initiated a hospice care program in the nursing home. By the same time, a one-day rotation for hospice care was held in the same place as part of our two-year post graduate training for nurses (N-PGY2). The aim of this program was to enhance their idea about hospice care.

**Summary of Work:** Between 2015 and 2018, 52 post graduate nurses participated in the rotation. After brief introduction of the basic idea of hospice care, they followed our hospice team to visit the enrolled patients (~15) and evaluate candidates for hospice in the nursing home. They join our case discussion, decision making and family meeting. The medical rounds were followed by practicing nursing care on our enrolled patients with experienced nurses, including nasogastric and foley change, skin care and manual oral feeding. Narrative feedback was requested from each of the participants about what they have learned. The results were based on the analysis of their feedback.

**Summary of Results:** In the feedback of the participants, 39(75%) nurses felt positive about the hospice program. 37(71.1%) thought our team very helpful to the inhabitants of the nursing home. 19(36.5%) were impressed by the condition of the institutional patients. 16(30.8%) mentioned the difference between hospital and nursing home. 15(28.8%) considered hospice program on their family and themselves in the future. 9(17.3%) thought the experience affecting their career positively.

**Discussion and Conclusions:** Although the duration of the course is short, the participants followed our hospice teamwork intimately and had close contact to patients in hospice care. The experience made them think positive about the hospice program and had good effect on their career. The nursing homes can be a good place for learning about end-of-life care.

**Take-home Messages:** The nursing homes can be a good place for learning about end-of-life care.

## #5MM Posters - Postgraduate: Education General

### 5MM14 (315)

**Date of Presentation:** Monday, 26 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Becoming the Medical Registrar - Addressing the Unmet Needs

#### AUTHOR(S):

- **Caroline Ming, King's College Hospital/King's College London, UK (Presenter)**
- Ambika Nedungadi, Kings College Hospital NHS trust, UK
- Barnaby Hirons, Kings College Hospital NHS Trust, UK
- Abubakar Khan, Kings College Hospital NHS Trust, UK
- Benjamin Clarke, Kings College Hospital NHS Trust, UK
- Ewa Zatyka, Kings College Hospital NHS Trust, UK

#### ABSTRACT

**Background:** The Medical Registrar role is traditionally perceived as challenging. In recent years, trainee satisfaction has declined, and specialty recruitment has been disappointing with trainees seeking alternative career paths. The Royal College of Physicians has suggested improvements to address this, and the new Internal Medicine (IMT) curriculum will commence in August 2019. However, the key issues driving trainees away from this role require sufficient understanding in order to be addressed appropriately. Burnout and low morale are prevalent in post-graduate training. There is a lack of focus on managing mental well-being, which is not a mandatory component within Core Medical Training (CMT) or IMT. Our aim is to improve trainee experience and support their educational needs with an emphasis on non-clinical skills.

**Summary of Work:** Core Medical Trainees at King's College Hospital NHS Trust completed a questionnaire to gain insight into their current job satisfaction, perceptions of training, confidence, and career prospects. We sought their views on how prepared they felt to become a Medical Registrar. 25 trainees completed the survey. Using this information, an educational programme including workshops, lectures and simulation was designed to address these areas of need. Feedback from trainees post implementation will be attained within 6 months.

**Summary of Results:** 12/25 (48%) trainees planned to apply for specialty training. 13/25 (52%) trainees were unsure of their plans, taking career breaks or changing training pathways. The key themes causing apprehensions about the Medical Registrar role were: • Taking referrals/ giving advice • Leadership/ team management • Prioritisation/ decision making • Confidence managing acutely unwell patients • Burnout/stress Post-course feedback will be attained in due course.

**Discussion and Conclusions:** The need for this innovative programme was evident. Our aim is to support medical trainees in building confidence, to enable a less stressful transition to 'becoming the Medical Registrar' and challenge this overall unfavourable perception of the role. Initial feedback has been extremely positive and we are using this to further shape the course and aspire to incorporate this as a mandatory component of IMT when this begins.

**Take-home Messages:** Trainees remain significantly apprehensive in becoming the Medical Registrar. Our programme aims to address the key themes contributing to this.

## #5NN Conference Workshop

### 5NN

**Date of Workshop:** Monday, 26 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Suite E, Level 0

### askAMEE: Using technology to support evidence-informed teaching practice

#### PRESENTER(S):

- Claire MacRae, AMEE, UK
- Trevor Gibbs, AMEE, UK
- Louise Russell, AMEE, UK

#### ABSTRACT

**Background:** This workshop explores how we access and use research findings to inform our day-to-day teaching practice. Technological developments have allowed us instant access to an overwhelming amount of knowledge, but how do we make decisions about what knowledge is useful and how it could be incorporated in our practices? askAMEE is a tool developed by AMEE to support this decision making process, and following a successful pilot we are aiming to develop the project further.

**Who should attend:** Anyone who struggles to keep up to date with the huge volume of medical education research. It will be particularly relevant to anyone who is interested in contributing to the future development of askAMEE.

**Structure of workshop:** The workshop will give participants the opportunity to reflect on questions such as 'What is evidence?'; 'How do you use evidence in your teaching practice?'; 'How much evidence is required before you will consider changing your practice?'; 'Who gets to decide what constitutes 'evidence?'

Participants will be encouraged to compare 'evidence' in biomedical and educational sciences, to discuss the quality of available evidence-based resources available to health professions educators and to consider the relationship between the quality of evidence and the strength of the resulting recommendations. We will move on to showcase askAMEE as a tool to support educators and ask participants to consider how technology can support the development of evidence-informed practice. Participants will have the opportunity to contribute to askAMEE's next phase of development and those who are interested can sign up to our beta-testing programme.

**Intended Outcomes:** By the end of this workshop, participants should be able to:

- Describe the different types of evidence available to medical educators
- Explain 'proxy' measures of quality and consider their impact on practice
- Evaluate evidence in terms of 'practical adequacy' in addition to the more commonly used standards of validity, reliability and generalisability
- Discuss the benefits and limitations of technology in supporting evidence-informed approaches to teaching
- Contribute to the future development of AMEE's newest initiative

**Level:** Introductory



## #6 Plenary 3

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 0800-0915

**Location of Presentation:** Hall A/C, Level 2

### A Call to Action: Patients as Partners in Healthcare Professions Education and Practice

**Susan E. Sheridan (Society to Improve Diagnosis in Medicine (SIDM), USA) and Suzanne Schrandt (Arthritis Foundation, USA)**

**Summary:** The Patients as Educators special theme plenary at the 2019 AMEE conference will be jointly delivered by two international patient leaders and will capitalise on the current momentum and emerging reports from medical educators that patient involvement as co-designers of medical education increases the relevance, legitimacy, and effectiveness of medical education and motivates powerful and lasting change in learners. The plenary co-presenters will provide a high level overview of innovative initiatives that are engaging patients as co-designers in all aspects of the healthcare ecosystem to achieve better health outcomes. It will focus on the critical role patient-partners can play in training clinicians to appropriately diagnosis and co-manage medical conditions by offering the rationale and benefit of this approach as well as case studies of successful patient-engaged clinical training initiatives. Evidence of the impact and benefit of each initiative will also be presented.

**Suzanne Schrandt, JD**, is the Director of Patient Engagement at the Arthritis Foundation. In this role, she develops and leads the Foundation's Patient Engagement strategy, working to infuse the wisdom and lived experience of patients into clinical research, drug and device development, and many other activities within the healthcare system. Previously Schrandt served for nearly four years as the Deputy Directory of Patient Engagement for the Patient-Centered Outcomes Research Institute (PCORI). While at PCORI, she helped to create and implement several key patient engagement initiatives including the Engagement Rubric, the concept of Engagement Officers, and the Pipeline to Proposal awards program. From the time of her diagnosis 27 years ago with polyarticular juvenile idiopathic arthritis, Schrandt has advocated on behalf of children and adults with arthritis and has been engaged in numerous patient and provider education initiatives aimed at increasing early diagnosis and appropriate, patient-centered management of chronic disease. Before joining PCORI, Schrandt served as the Health Reform Strategy Team Leader for the Kansas Health Institute, where she educated the state's policymakers, providers, and consumers on the implications of the Affordable Care Act.

**Susan E. Sheridan, MIM, MBA, DHL**, currently serves as the Director of Patient Engagement for the Society to Improve Diagnosis in Medicine (SIDM) where she spearheads efforts to ensure that the patient and family perspective informs all facets of SIDM's work to improve diagnostic accuracy and timeliness while reducing harm caused by diagnostic errors. She recently served as the Patient and Family Engagement Adviser in the Center for Clinical Standards and Quality at the Centers of Medicare and Medicaid (CMS) where she developed strategies and processes to integrate CMS's newly launched Person and Family Engagement Strategy throughout the CMS community. Previous to her joining CMS, Sheridan served as the Director of Patient Engagement of the Patient-Centered Outcomes Research Institute (PCORI) from 2012-2016 where she was responsible for creating networks and engaging patients across the nation to provide broad-based input on the development and execution of PCORI's research. She also was responsible for concept development and implementation of patient engagement related programs and processes at PCORI. In 2003, Sheridan co-founded Consumers Advancing Patient Safety, a non-profit organisation that seeks a safe, compassionate and just healthcare system through proactive partnership between consumers and providers of care. Sheridan served at President of CAPS from 2003-2010. Sheridan was asked to lead the World Health Organization's Patients for Patient Safety initiative, a program under the WHO Patient Safety Program who embraces the collective wisdom of the patient, patient empowerment and safe, patient-centered care. Sheridan served as Program Lead from 2004-2011.

## #7A Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1200

**Location of Presentation:** Hall A, Level 2

### Expanding the Role of Patients as Partners in Education

**Presenters:**

- Janusz Janczukowicz, Medical University of Lodz, Poland
- Robina Shah, University of Manchester, UK
- Subha Ramani, Harvard Medical School, USA
- Neil Johnson, National Institute for Preventive Cardiology, Ireland
- Jools Symons, University of Leeds, UK

**Summary of theme and why it is important:** The passive role of patients in the education of health professionals is being reimagined in the context of a greater global focus on patient-centred care and patient safety. This symposium will explore a more active engagement of patients and their caregivers in instruction, development and assessment of professional qualities. The theoretical and research base underpinning an augmented patient-educator role will be discussed and existing models of practice in various countries considered. Patients as partners in health professions education is a novel area of research enquiry and the assembled speakers will propose unmet research questions and practice needs for an evolving healthcare system. A broad involvement of patients in education will be discussed, including an expanded role for patients in curricular design, student selection, student remediation, medical education research design, and health literacy. The speakers are engaged on multiple levels with patient and public involvement in education and share a passion for the translation of a deeper patient-educator role into improved care for patients and their family caregivers.

**Who should participate in the symposium?** This symposium would interest any patient, family caregiver, faculty, clinician, student or administrator who has an interest in cultivating a deeper and more meaningful involvement of patients as educational partners.

**What will they gain from participating?** By the end of the session, participants will be able to:

- Reflect on the benefits of a deeper engagement of patients and their caregivers in undergraduate and postgraduate health professions curricula.
- Identify aspects of their own educational practice which would be enhanced by facilitating an expanded role for patients as health professions educators.
- Critically appraise the published literature and examples of best practice in relation to patient involvement in the governance, development and delivery of educational programmes.

## #7B Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1200

**Location of Presentation:** Hall C, Level 2

### Understanding student behaviour: The role of digital data

**Presenters:**

- Jennifer Hallam, Leeds Institute of Medical Education, University of Leeds, UK
- Martin V Pusic, NYU Langone Health, USA
- Stephanie Clota, ModMed, Australia
- Marie-Christine Rousset, Université de Grenoble-Alpes, France
- Fabrice Jouanot, Université de Grenoble-Alpes, France
- Tamsin Treasure-Jones, Leeds Institute of Medical Education, University of Leeds, UK

**Summary of theme and why it is important:** With the advent of more 'just in time' technology in medical education, it presents us with the opportunity to capture more digital data about student and trainee behaviour in relation to formative and summative assessments, the use of knowledge resources and consequently determine the impact of teaching and curriculum on student outcomes. With the abundance of data that we can collect about student behaviour, together with the availability of tools for automatic processing, educational institutions have exciting opportunities to innovate. However, institutions are often faced with the daunting task of exploring this voluminous data and not knowing where to begin, what information to capture and what pedagogy to apply. How can we explore this readily available data to better understand student behaviour and thus appropriately refine health professions education?

This symposium will present original thoughts and visions of the use of digital data in order to understand learner behaviour at scale. Alternate ways of how this data can be explored, as an effective learning and assessment resource, will be discussed based on examples from University level (undergraduate and postgraduate) medical education activities. The speakers approach the gathering and exploration of digital data in different ways and employ multiple theoretical and pedagogical perspectives. This symposium will explore these different approaches such as:

- Adoption of self determination and self-regulation theories
- Ontology based learning analytics
- Intervention development (e.g. behavioural nudges)
- Innovation of curriculum and assessment
- Analytical methods in trainees professional development to personalise CPD opportunities

It will also offer insights into research directions in this area.

**Who should participate in the symposium?** This symposium will be beneficial to all colleagues from within the health professions education community who have an interest in adopting innovative techniques to explore digital data in order to understand and explore student data in detail. It would also be beneficial for those who would like to learn more about utilizing the techniques in their research/ teaching, specifically for innovation within the curriculum. Those who are involved in policy making for health professions education programs would also be encouraged to participate.

**What will they gain from participating?** Participants in the symposium will gain a better insight into the different techniques and approaches that have been used to explore digital data to understand behaviour in order to optimise learner outcomes, improve decision making and organisational efficiencies. A variety of different approaches and theoretical models have been adopted by the speakers so participants will gain a better understanding of the philosophy behind the approaches used and how they can apply them to their own data.

## #7C Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1200

**Location of Presentation:** Hall N, Level 1

### Transformative Learning: A pedagogy for the health professions

**Presenters:**

- David Davies, Warwick Medical School, United Kingdom
- Jennene Greenhill, Flinders University College of Medicine and Public Health, Australia
- Ayelet Kuper, Wilson Centre, University of Toronto, Canada
- Tina Martimianakis, Wilson Centre, University of Toronto, Canada
- Susan van Schalkwyk, Centre for Health Professions Education, Stellenbosch University, South Africa

**Summary of theme and why it is important:** Transformative learning is rapidly becoming a buzzword in health professions education (HPE), but it is actually a complex theoretical construct. It speaks to learning experiences that challenge students' long-held assumptions and perspectives and encourage critical reflection on one's worldview. In so doing, it influences the formation of students' professional identities and leads to greater self-awareness, ultimately influencing behaviour in practice. Built on notions of social justice and accountability, transformative learning occurs over time and is typically catalysed by a 'disorienting dilemma' that results in critical reflection about oneself and one's assumptions, leading to new ways of being in the world.

First introduced through the work of sociologist Jack Mezirow, transformative learning is increasingly being taken up in the HPE literature, including featuring strongly in the Lancet Commission 2010 article that proposed a new direction for HPE in the 21st century. It is evident that there is much synergy between the fundamental principles of transformative learning theory and growing awareness around issues of health equity, person-centred care, and advocacy for changes in the structures and process of health care and of HPE.

In this symposium, we will explore transformative learning theory as a pedagogy for HPE from a number of different perspectives:

- **Susan van Schalkwyk:** Introduction to the symposium identifying some of the issues that will be probed during the symposium. Will provide an overview of transformative learning as it currently is being taken up in the HPE literature, highlighting both the ontological and epistemological dimensions of the construct. Thinking around the affordances that transformative learning theory can offer educators in the health professions will be highlighted.
- **David Davies:** Explore the role that threshold concepts potentially play in transformative learning. Thinking about transformative learning in the curriculum, given how personal it is to the individual, is it something to be welcomed when it happens, but cannot be expected for each and every student? Can we maximise the pre-conditions for it by identifying and agreeing threshold concepts that once crossed, can lead to a cognitive and/or affective transformation for all?
- **Jennene Greenhill:** Medical students learning in different contexts can transform their world view. Our research on transformative learning spans from clinical simulation to rural settings. Whilst many students do have transformative learning experiences some don't. Why and how transformative learning happens is it the context, the curriculum design, or the characteristics of our learners perhaps?
- **Tina Martimianakis:** What does reflexivity look like when educational programs adopt transformative learning pedagogies? Is transformative learning only a tool in the hands of the teacher or can it be used to make teachers and organizations accountable to social reform

mandates by offering important insights into curriculum gaps, hidden curriculum effects and other features of organizational structures and culture?

- **Ayelet Kuper:** We have many lofty individual and structural goals for transformative learning, but how will we know when we have achieved them? The constructs promoted through transformative learning seem incongruent with traditional HPE assessment modalities, so how can we assess our learners and/or evaluate our curricula and pedagogy?

**Who should participate in the symposium?** Transformative learning has been described as a theory that offers educators a lens through which they can view their students' learning. Anyone who is involved in the practice of HPE, as well as anyone whose research relates to current hot topics like equity and person-centredness, will be able to find touchpoints in the different presentations and engage meaningfully in the subsequent discussion.

**What will they gain from participating?** Participants will have the opportunity to critically reflect on the different positions explored during the session and contemplate how these resonate with their own understanding of how learning happens. They will be able consider (a) what sort of learning is needed to ensure a cadre of healthcare professionals who will be equipped to engage with global health challenges going forward; and (b) how HPE needs to change (globally or in their local context(s)) to accommodate that sort of learning.



## #7D Short Communications - Interprofessional Education 1

### 7D1 (636)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room L3, Level 1

### The Tacit Knowledge Base Underlying Interprofessional Collaboration Competence

#### AUTHOR(S):

- Nicolas Fernandez, Université de Montréal, Canada (Presenter)
- Isabelle Perreault, Université de Montréal, Canada

#### ABSTRACT

**Background:** Clinicians engage in interprofessional collaboration on a daily basis. They use their 'tacit knowledge' (Polanyi, 1966; Henry, 2010) that comprises indirectly appreciated peripheral details about how regular tasks are accomplished. A deeper understanding and systematic appraisal of this knowledge would be beneficial for clinical supervisors providing feedback on Interprofessional collaboration.

**Summary of Work:** In this exploratory study, we have undertaken 12 explicitation interviews (Maurel, 2009) with clinical educators in 5 professions who teach in an interprofessional collaboration program at Université de Montréal. In these interviews, participants are free to recall an event, related to interprofessional collaboration, and describe their actions as well as their underlying reasoning in as much detail as possible. Our approach is based on the idea that actions described in this manner are aggregates accumulated in similar circumstances in the past, reflecting the clinician's personal theory (Eraut, 2004) about interprofessional collaboration. Thematic analysis was used to extract discrete descriptions of actions undertaken by individuals collaborating with colleagues in clinical work.

**Summary of Results:** Clinicians reported that they acted in subtle ways to ensure successful collaboration. Amongst these: discussing a case that the team is grappling with over coffee-break; stopping by in the corridor or in the doorway to discuss a case, face-to-face; deliberately sharing each one's working hypotheses while working on a case; creating a space for shy members to express themselves in meetings.

**Discussion and Conclusions:** The many described actions reflect the implicit theories about interprofessional collaboration, indicating that when these clinicians collaborate, they are likely to undertake these actions to ensure success. By describing the competence as a sum of such actions, students are likely to gain awareness as to what is required for successful collaboration.

**Take-home Messages:** 1. We have gained a richer and more nuanced view of collaborative practice 2. We have described tacit knowledge acquired during practice of interprofessional collaboration. 3. The description of these actions provide specific indicators that are useful for teaching and assessment of this competence.

## #7D Short Communications - Interprofessional Education 1

### 7D2 (1032)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room L3, Level 1

### How simulation can prepare interprofessional care teams for mass casualty response

#### AUTHOR(S):

- **Karlen Bader, Uniformed Services University, USA (Presenter)**
- Lara Varpio, Uniformed Services University, USA
- Meghan Hamwey, Uniformed Services University, USA
- Kevin Semelrath, Uniformed Services University, USA
- Elise Paradis, University of Toronto, Canada

#### ABSTRACT

**Background:** To improve interprofessional healthcare collaboration, clinicians and their organizations have often adopted practices from other fields (e.g., aviation). But we have yet to access lessons from those who, arguably, have the highest rates of success working in interprofessional healthcare teams in high-stress environments: those working in military deployment contexts. The skills harnessed by military care teams can usefully inform their civilian counterparts. Yet, little research has studied how the military prepares its interprofessional healthcare teams. To address this gap, we studied military interprofessional education (MIPE) in a simulated environment. We asked: What are the distinctive attributes of MIPE that could inform civilian interprofessional education?

**Summary of Work:** Using an ethnographic approach, three researchers conducted 30 hours of non-participant observations of an MIPE simulation over 4 days. This large-scale immersive simulation of battlefield deployment involves the 4th year medical cohort (n = 177), and learners in nursing (n = 29) and psychology (n = 5) from the American university that educates military healthcare professionals. Data were transcribed/analyzed by the three researchers and vetted by the rest of the research team.

**Summary of Results:** We identified three distinct aspects of MIPE. First, MIPE is delivered in a culture where failing isn't failing. Instructors allow students to flail/fumble, rather than immediately guide the learner. Second, MIPE emphasizes the importance of followership. Followership requires members of the MIHT to actively and intentionally work in support of their team leader. Third, MIPE encourages interprofessional respect via role adoption. Learners were required to actively assume all the different roles in the care team. In so doing, learners gained appreciation for the work carried out by each team role.

**Discussion and Conclusions:** Using the theory of relational coordination as an analytic framework, we analyzed these findings. We contend that MIPE can provide important developmental opportunities for team members. These findings could easily be transferred to civilian contexts.

**Take-home Messages:** The lessons learned by interprofessional teams serving at the war front can inform teams who serve at home, and in turn, serve society at large.

## #7D Short Communications - Interprofessional Education 1

7D3 (2055)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room L3, Level 1

### Caring for underserved patients through neighbourhood health screening: readiness for interprofessional learning after participation in a longitudinal interprofessional home visit program in Singapore

#### AUTHOR(S):

- Liang En Ian Wee, Singapore General Hospital, Singapore (Presenter)
- Gerald Choon Huat Koh Koh, Saw Swee Hock School of Public Health, Singapore
- Geok Ling Lee, National University of Singapore, Singapore
- Yun Ying Tsang, National Healthcare Group, Singapore

#### ABSTRACT

**Background:** The Neighbourhood Health Service (NHS) occurs in underserved, low-income public rental flat neighbourhoods in Singapore, with volunteer teams comprised of medical, nursing and social work professionals going door-to-door to provide health screenings and mobile medical follow-up over a 6-month period. The volunteers work as an interdisciplinary team, re-integrating residents with social services and attending to health needs. We were interested in gauging whether our program successfully encouraged positive attitudes to interprofessional learning between the various members of the integrated care team.

**Summary of Work:** We assessed the effect of the NHS on readiness for interprofessional learning (RIPL), by using standardized questionnaires. We used the Readiness for Interprofessional Learning Scale (RIPLS) Questionnaire, a locally-validated 19-item questionnaire comprised of 3 domains (minimum score: 19; maximum score: 95). Participants were given the questionnaires at baseline and 1-month after participation in the program in 2018. We used paired t-test to compare before-and-after scores.

**Summary of Results:** A total of 265 professionals took part in the study, with a response rate of 75.9% (265/349). Of those, 54.3% (144/265) were from medicine; 12.4% (33/265) were from social work; and 33.2% (88/265) were from nursing. Post-intervention, across all participants, RIPL scores increased significantly, both overall (before: 80.22(S.D 7.21); after: 81.44 (S.D 7.25),  $p < 0.001$ ) and across all three domains of teamwork/collaboration, professional identity and roles/responsibilities (all  $p < 0.05$ ). All members of the integrated care team (medical, social work, nursing) demonstrated statistically significant gains in the professional identity subscale ( $p < 0.05$ ). Individuals with  $>1$  year of working experience demonstrated significant gains across all domains ( $p < 0.05$ ), as well as those who had previously participated in IPE activities.

**Discussion and Conclusions:** A door-to-door volunteer-based interprofessional home-visit program encouraged positive attitudes to IPL amongst medical, nursing and social work professionals.

**Take-home Messages:** However, benefits largely accrued in individuals who had  $>1$  year of working experience post-graduation, as well as those who previously participated in IPE.

## #7D Short Communications - Interprofessional Education 1

### 7D4 (1925)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room L3, Level 1

### Social identification and interprofessional learning of final-year nursing and medical students

#### AUTHOR(S):

- **Claudia Tielemans, Utrecht University, the Netherlands (Presenter)**
- W.E.S. van den Broek, Utrecht University, the Netherlands
- T.J. ten Cate, Utrecht University, the Netherlands
- C.L.J.J. Kruitwagen, Utrecht University, the Netherlands
- H.E. Westerveld, Utrecht University, the Netherlands

#### ABSTRACT

**Background:** As interprofessional healthcare collaboration is increasingly important, worldwide different educational methods are being developed to implement interprofessional learning (IPL). Social identification is a central concept of the social identity approach from social psychology. It offers valuable starting points for exploring group processes in healthcare, which influence IPL. We aimed to explore social identification with the professional group on one hand and the interprofessional team on the other hand, in final-year healthcare students, and to explore their views on IPL.

**Summary of Work:** A questionnaire was sent to 276 final-year nursing and medical students at Utrecht University. Using a validated questionnaire, which required rating of statements on a 7-point Likert scale, we measured strength of social identification (SSI) with the professional group and interprofessional team and compared group means using dependent and independent t-tests. Additionally, we asked 4 open-ended questions regarding IPL. Answers were analyzed qualitatively, using thematic analysis.

**Summary of Results:** 15 nursing students and 38 medical students responded. In both groups a significant but small difference was found for SSI, favoring the professional group. No significant between-group difference in SSI was found. In the open-ended questions we found that participants often defined membership of their interprofessional team broadly, including supportive personnel and management. They named the importance of complementary roles in healthcare and how best to combine these as items they had learned from interprofessional team collaboration. They also identified IPL inhibitors, including cultural aspects (hierarchy among professionals) and structural aspects (workload and time pressure). Finally, we found that students generally regarded the idea of interprofessional feedback and assessment favorably.

**Discussion and Conclusions:** SSI scores showed that final-year healthcare students hardly favored the own professional group over the interprofessional team. Supported by the findings of openness to interprofessional feedback and broadness in defining the interprofessional team, it seems that social identification processes do not obstruct IPL for these students. However, several important factors inhibiting IPL remain.

**Take-home Messages:** Social identification offers valuable insights for researching IPL. Both our qualitative and quantitative findings seem to indicate that social group identification processes do not hamper IPL in final-year healthcare students.

## #7D Short Communications - Interprofessional Education 1

7D5 (1944)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room L3, Level 1

### Introduction of an undergraduate interprofessional simulation based skills training program in obstetrics and gynaecology in India

#### AUTHOR(S):

- Arunaz Kumar, Monash University, Australia (Presenter)
- Suhas Gorantla, Monash University, Australia
- Atul Malhotra, Monash University, Australia
- J V Singh, Hind Institute of Medical Sciences, India

#### ABSTRACT

**Background:** Interprofessional Simulation Based Education (SBE) improves both core clinical skills and team training in clinical practice. While interprofessional simulation based learning is common in clinicians practicing, its role has not been explored extensively at an undergraduate level. Also such initiatives have not been reported in a developing country. In this study, the introduction of an undergraduate interprofessional SBE program for teaching obstetrics and gynaecology skills in India was evaluated.

**Summary of Work:** A well-established skills training interprofessional workshop in obstetrics and gynaecology was introduced for medical and midwifery students in a secondary level hospital in India. A mixed methods analysis of numerical and qualitative feedback data of the workshops was conducted. Thematic analysis of free text data was conducted and key themes identified.

**Summary of Results:** Ninety-five medical and midwifery students attended the workshop, the first of its kind in a low resource setting. The background clinical experience in obstetrics and gynaecology of the students across both groups was minimal. The improvement in self "reported feedback was similar in both health professional groups. The main theme that appeared was 'hands-on' learning compared to didactic teaching. The other themes were learning in simulation without clinical time constraints, retaining the ability to make mistakes, bridging theory to practice, valuing interprofessional experience and ensuring equal learning opportunities for all participating professional groups.

**Discussion and Conclusions:** SBE was identified to be different to other forms of learning due to provision of hands-on practice as it tied theoretical knowledge with practical skills. This concept can be explained through Fenwick's theory of socio-materiality, where humans interact with materials, that play the role of being fundamental tools in their learning. Active learning sought by participants through these deliberate interactions can therefore lead to greater knowledge gains and positively influence long-term retention of information. Simulation can help to reinforce clinical skills through deliberate practice, in a safe and educationally orientated environment. By eliminating the time pressure associated with a hectic clinical setting, a stress-free environment is created for learners to experiment and learn at their own individual pace.

**Take-home Messages:** The advantages of interprofessional SBE are reproducible in a low resource setting and helpful for participant skills and team training.



## #7D Short Communications - Interprofessional Education 1

7D6 (1263)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room L3, Level 1

### Implementation of Importance-Performance Analysis to Evaluate the Interprofessional Collaborative Practice Conference in a Tertiary Hospital in Taiwan

#### AUTHOR(S):

- Je-Ming Hu, Division of Colorectal Surgery, Department of Surgery, Tri-Service General Hospital in Taipei, Taiwan (Presenter)
- Tung-Wei Kao, Department of Family Medicine, Tri-Service General Hospital, Taiwan
- Yaw-Wen Chang, Department of Family Medicine, Tri-Service General Hospital, Taiwan
- PoKai Chan, National Defense Medical Center, Taiwan
- Li-Chen Lin, Department of Nursing, Tri-Service General Hospital, Taiwan
- Feng-Cheng Liu, Division of Rheumatology, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** High audience satisfaction may mask the weakness of the interprofessional curriculum content. To improve the course quality, we introduce the Importance-Performance analysis (IPA) to the interprofessional collaborative practice conference (ICPC) held monthly in the Tri-Service General Hospital in Taipei, Taiwan.

**Summary of Work:** The research was carried out in each ICPC from June to December in 2018. The 17-item Likert scale IPA questionnaire, derived from the ICPC judge evaluation form, contains 3 domains: healthcare matrix (HCM), interprofessional education and shared-decision-making (SDM). The participants were asked to fill out the questionnaire online after the courses. The data were then analyzed and standardized with SPSS 20 for the descriptive statistics, reliability analysis, and IPA. The strength and the weakness distribution were then visualized on the Importance-Performance Matrix. We also check the correlation between the IPA performance scores, ICPC judge evaluation score and the Interdisciplinary Education Perception Scale (IEPS) gain scores.

**Summary of Results:** Totally 1552 respondents completed the importance-performance questionnaire last year with good reliability (Cronbach's alpha > 0.9). Through IPA, the author could compare the distribution in each month and provide improvement suggestion to the ICPC organizing team. In addition, among the 3 domains, the most highly-important and well-performed items were 'Interprofessional cooperation and alignment of care plan', while the item 'Using easy and understandable language for SDM' required more emphasis in the next year courses. For the correlation analysis, the IPA performance scores are significant highly correlated to the IEPS gain scores ( $r > 0.7$ ), while only the domain of HCM was correlated between IPA performance and the judge scores.

**Discussion and Conclusions:** The IPA not only provides a novel way to look through the myth of high satisfaction but also helps the ICPC organizing team know their strength and weakness. This study is limited due to the lack of examination for the questionnaire validity, the bias of authenticity due to too many items in the questionnaire and the online self-reported form.

**Take-home Messages:** The IPA is a promising tool for the IPE course optimization and further study should be carried out for the factor analysis and validity construction.

## #7D Short Communications - Interprofessional Education 1

7D7 (987)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room L3, Level 1

### Does Interprofessional Education for teachers enhance the Interprofessional Collaboration in airway management for new staffed nurses, respiratory therapists and physicians?

#### AUTHOR(S):

- **Mok Sam I, Taipei Medical University Shuang Ho Hospital, New Taipei City, Taiwan (Presenter)**
- Pei-hsing Hsieh, Taipei Medical University Shuang Ho Hospital, Taiwan
- Jiann Ruey Ong, Taipei Medical University Shuang Ho Hospital, Taiwan
- Yuh-Fen Lin, Taipei Medical University Shuang Ho Hospital, Taiwan
- Che-Wei Lin, Taipei Medical University Shuang Ho Hospital, Taiwan
- Hon-Ping Ma, Taipei Medical University Shuang Ho Hospital, Taiwan

#### ABSTRACT

**Background:** Hospital-based airway management is usually conducted in interdisciplinary teams consisting of physicians, nurses and respiratory therapists, but often new personnel is trained independently within their own professional group. It is not until they begin to work in the clinical environment that they begin to collaborate in the care of patients in need of airway management. Due to differences in the initial training, there is a significant lack of consensus and substantial specific-skill disparity such as such as suction methodology of sputum or blood, bag-mask-ventilation, oxygen use criteria, etc The purpose of this training program is to train airway management instructors in an interprofessional environment to achieve a better standardization of procedural skills and a better understanding of profession-specific practices. Through these interprofessionally trained instructors, we expect to improve consensus among trainees when performing airway management and enhance teamwork, patient safety and quality of care.

**Summary of Work:** Study method: The participants include 30 newly hired residents (n=10) and nurses (n=20) from 2 hospitals affiliated to Taipei Medical University. The participants will be assigned to 2 study groups, the intervention group will participate in an interprofessional airway management workshop while the control group will receive traditional discipline-specific airway management instruction. Participants from both groups will be assessed by a simulated scenario to ensure an acceptable level of technical competency has been achieved. Both groups will then participate in 3 standardized airway management scenarios, their performance will be evaluated using 3 assessments: Case-specific checklist, team performance measurement instrument and, self-reflection and expert observer impressions of teamwork.

**Summary of Results:** Expected outcomes: Preliminary surveys of learner satisfaction have highlighted that the fact that participants were able to learn additional skills which are hard to learn from instructors from the same professional field. There is also an increased awareness of the skills and capabilities of health professionals in other fields, which is conducive to better team integration.

**Discussion and Conclusions:** Our expected outcomes from this new interprofessional format include increased basic airway management competency, a better understanding of the roles and capabilities of other health professionals and improved team integration.

**Take-home Messages:** **Interprofessional Education for teachers may enhance teamwork, patient safety and quality of care.**

## #7E Research Papers - Diversity in the Curriculum

### 7E1 (55)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1035

**Location of Presentation:** Hall M, Level 1

### When teachers meet in interdisciplinary teams: hangouts, distribution centers and melting pots

#### AUTHOR(S):

- **Stephanie Meeuwissen, Faculty of Health, Medicine & Life Sciences (FHML), Maastricht University, The Netherlands (Presenter)**
- Wim Gijselaers, School for Business & Economics Maastricht University, Maastricht, the Netherlands
- Ineke Wolfhagen, Faculty of Health, Medicine & Life Sciences Maastricht University, the Netherlands
- Mirjam oude Egbrink, Faculty of Health, Medicine & Life Sciences Maastricht University, the Netherlands

#### ABSTRACT

**Introduction:** Health care systems are increasingly complex and interdisciplinary. These systems call for medical doctors who have learned to understand the importance and interdependence of multiple disciplines when working with individual patients. Preparing graduates for these complex health care settings requires interdisciplinary teaching. This asks for integrated curriculum set-ups, which forces teachers from different scientific and clinical disciplines to work together to develop courses. However, teachers' teaching experiences often rely on offering course units strictly organized by distinct disciplines. Little empirical research is conducted on teachers' team processes in integrated health professions education and how they influence successful development and quality of integrated curricula. In management sciences, it is shown that team performance increases with high-level team learning processes, ranging from sharing and co-construction to constructive conflict. In the current study, we set out to explore team learning processes and outcomes among interdisciplinary teacher teams in the development of integrated health professions education.

**Methods:** We conducted an exploratory study, using a sequential mixed-methods design. First, we used maximum variation sampling and conducted 17 vignette-guided, semi-structured interviews with teachers originating from diverse disciplines. These teachers worked in 17 different courses of the integrated, undergraduate health profession programs at Maastricht University. The interview guide and vignettes were based on team learning research. These sensitizing concepts of team learning informed our template analysis. Sequentially, evaluation data of the different courses were used to provide a descriptive analysis of students' perspectives on course quality (course organization, quality, learning effect and alignment).

**Results:** Three interdisciplinary teacher team approaches were identified. Each approach was characterized by the team learning behavior, focus of work, feeling of responsibility, teachers' commitment, feeling of identity, psychological safety, boundary setting, and teachers' perspectives on both teamwork and the produced course. 1) In fragmented teams, characterized as 'hangouts', teachers worked individually on tasks that they were interested in, leaving their disciplinary mark. 2) Framework-guided teams, functioning like 'distribution centers', aimed to work within the given frameworks and organizational expectations, striving for disciplinary balance. 3) Integrated teacher teams, imaginary 'melting pots', worked interdisciplinary on all topics and put students at the center. Integrated teams reflected high-level team learning processes and were most satisfied with their (team)work. In contrast, fragmented and framework-guided teams mainly reflected low-level team learning processes; sharing and co-construction, respectively. Students evaluated courses of integrated teacher teams highest on all investigated course quality items.

**Discussion & conclusions:** Our results yield insight in the team learning processes and outcomes of interdisciplinary teacher teams working in integrated curricula. Findings show that successful interdisciplinary teacher teams are represented by integrated teams with high-level team learning behavior and the best course evaluations. Therefore, health professions education management should actively encourage and facilitate integrated teacher teamwork. A focus on learning cultures in which people feel safe to speak up and learn from each other seems vital to achieve high team learning levels in interdisciplinary teacher teams. Framework-guided teams further showed that a strong task cohesion could work protective in order to cover the intended learning outcomes. Teachers need to get the experience and knowledge of how to share and exchange knowledge with colleagues from different disciplinary backgrounds, and understand that just sharing tasks among the different disciplines does not result in interdisciplinary, integrated teamwork. Continuous faculty development programs could offer solutions for its dissemination.

## References:

Malik AS, Malik RH. Twelve tips for developing an integrated curriculum. Medical Teacher. 2011;33(2):99-104.

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## #7E Research Papers - Diversity in the Curriculum

### 7E2 (127)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1035-1055

**Location of Presentation:** Hall M, Level 1

### The exotic other: A constructivist analysis of cultural diversity in medical curricula

#### AUTHOR(S):

- **Albertine Zanting, Maastricht University, Maastricht, Netherlands (Presenter)**
- Janneke Frambach, Maastricht University, Maastricht, The Netherlands
- Agnes Meershoek, Maastricht University, Maastricht, The Netherlands
- Anja Krumeich, Maastricht University, Maastricht, The Netherlands

#### ABSTRACT

**Introduction:** To meet the health needs of increasingly diverse patient populations and to enhance the quality of medical care, dealing with cultural diversity in medical education is considered essential. Despite this attention for cultural diversity, educators struggle how to adequately integrate the concept in medical training, and the expected quality impulse fails to occur. Theoretically, notions of culture vary from static concepts focused on fixed categories, to more dynamic ones seeing culture as continuously changing practices. Studies outside medical education show that the used notion of cultural diversity is not innocent; the way the concept is interpreted or 'constructed' - e.g. in educational materials - has important implications for policies, practices and people concerned. For healthcare this implies that the used notion of cultural diversity influences the patients' treatment. We therefore investigated how the concept of 'cultural diversity' is constructed in medical curricula and what its implications are for curriculum contents.

**Methods:** We purposefully sampled three medical bachelor curricula offered at two Dutch universities, which differed as to educational approach, student population, language (Dutch and English), and diversity or internationalization policies. We analyzed the curriculum material including 39 main courses, and electives, minors, internships, and longitudinal tracks. Consistent with a constructivist paradigm, we studied how meanings were constructed and embodied in language. The qualitative content analysis was conducted as iterative process, including thorough reading and open coding, identifying patterns, and creating and structuring themes. We explicitly looked for contradicting information; interpretations of the data were discussed within the research team.

**Results:** Our analysis identified four mechanisms of constructing cultural diversity:

1. Consideration for 'culture' differed throughout the curriculum parts: in mainstream Dutch courses patients and diseases were unambiguously presented with limited references to 'culture', whereas in the English curriculum and in specific courses paying attention to culture was considered essential, and patient cases included references to nationality, religion, and ethnicity.
2. Although provided explicit definitions of 'culture' did not refer to specific groups, the way patient cases were constructed implied that 'culture' predominantly referred to people or circumstances outside the Netherlands or Western world.
3. A static concept of culture was predominant, which presented non-Western patients as stereotypical "others".
4. Culture often referred to broad categories, and linking these to medical issues lead to a causation versus correlation misconception. These four mechanisms together resulted in a notion of cultural diversity being something or someone exotic; an exception and deviant to the implicit Dutch or Western standard, and therefore problematic.

**Discussion and conclusions:** Employing and conveying this notion of cultural diversity as deviant in medical curricula may lead to insecurity among (future) doctors about whether and how to consider culture in the doctor's office, and lack of clear guidelines needed for accurate medical diagnosis and treatment. The notion of culture as deviant cannot only be found in medical education and in relation to culture, but seems similar to noted mechanisms in medical research and in relation to other diversity aspects. Awareness of these mechanisms and how they problematize large sections of the patient population is crucial for equitable healthcare. This study suggests that the quality of medical education could be enhanced by developing a consistent and dynamic vision on culture that uses smaller categories and pays more attention to aspects such as living environment and habits, and by integrating this vision in mainstream training.

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## #7E Research Papers - Diversity in the Curriculum

### 7E3 (169)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1055-1135

**Location of Presentation:** Hall M, Level 1

### Medical students' negative affective responses to meeting patients with mental illness – do these represent stigma?

#### AUTHOR(S):

- Helen Caisley, University of Cambridge/Cambridgeshire and Peterborough NHS Foundation Trust/Collaboration for Leadership in Applied Health Research and Care East of England, Cambridge, UK (Presenter)
- Diana Wood, University of Cambridge, School of Clinical Medicine, Cambridge, UK
- Robbie Duschinsky, University of Cambridge, UK
- Paul Wilkinson, University of Cambridge/Cambridgeshire and Peterborough NHS Foundation Trust, Cambridge, UK

#### ABSTRACT

**Introduction:** Medical students have been a particular focus of work addressing stigma in health professionals. However, there has been limited evaluation of stigma towards patients with mental illness from medical students. Vague conceptualisations of stigma have hampered research in this area. Medical students were interviewed about their experiences of learning psychiatry. Early analysis indicated that many of the students described strong emotional reactions to meeting patients with mental illness. This study aimed to evaluate whether these reactions represented stigma (as defined by the Link and Phelan (1) (L&P) and Knowledge, Attitudes and Behaviour (2) (KAB) models) and on this basis appraise what further teaching might be required.

**Methods:** Year 5 students at the University of Cambridge School of Clinical Medicine who had undertaken their specialty psychiatry placement were invited to participate. Purposive sampling of the first eligible students to volunteer was used to obtain a gender balance. Fifteen students were recruited. Saturation was reached. Semi-structured interviews were conducted between January and March 2017. Data were analysed using thematic analysis within a contextualist framework. Key concepts were identified in initial rounds of inductive coding. From these rounds, anxiety and stigma were noted to be important themes. Review of the relevant literature pertaining to these areas facilitated formulation of a coding framework for a second round of deductive coding. In addition, possible course factors that may have contributed to an anxious response were identified.

**Results:** Some components of stigma, described in the L&P and KAB models were present in the transcripts. However, there was no evidence of status loss and discrimination described by the L&P model, or of negative thoughts towards patients or rejecting behaviour described by the KAB model. The strong emotional reactions that students exhibited were better explained by the concept of anxiety than by stigma. A feeling of threat - a psychic component of anxiety - was described by many students who used metaphorical language of being 'thrown in the deep end'. Descriptions of avoidant behaviours, recognised as a feature of anxiety, were widespread. Students' anxiety appeared to arise from concern for patients, alongside the belief that they lacked the knowledge and skills to alleviate patients' distress. They were also concerned for their own safety and psychological well-being.

**Discussion and Conclusion:** The negative affective responses of students meeting patients with mental illness are better described by anxiety than stigma. This is in keeping with previous research highlighting anxieties of medical students about meeting those with mental illness. It is important to recognise that patients may attribute anxious-avoidant behaviour by students to stigma. Lack of knowledge about mental illness and skills for communicating with patients with mental illness were described as significant sources of anxiety. It has long been recognised that conversely, anxiety impacts learning. Therefore students' anxiety needs to be addressed in parallel with improving teaching of knowledge and skills. The interviews also highlighted that it may be helpful for some educators to consider the impact of their behaviour on students' anxieties. Examples included doctors choosing to 'protect' students from seeing patients with mental illness early in their training. Limitations of the study include the possibility of unconscious bias, possible reluctance to talk about stigmatising attitudes and behaviour with a psychiatrist and the small number of participants in one setting.

## References:

- (1) Link BG, Phelan JC. 2001. Conceptualising stigma. Annual Review of Sociology 27:363-85
- (2) Thornicroft G, Kassam A. 2008. Public attitudes, stigma and discrimination against people with mental illness. In Morgan C, McKenzie K, Fearon P, editors. Society and Psychosis. 1st edition. New York (NY): Cambridge University Press; p179-97



## #7E Research Papers - Diversity in the Curriculum

### 7E4 (182)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1135-1155

**Location of Presentation:** Hall M, Level 1

### Experiences and motivation of ethnic minority students in medical education: a qualitative study

#### AUTHOR(S):

- Ulviye Isik, VUmc School of Medical Sciences, Amsterdam, the Netherlands (Presenter)
- Anouk Wouters, VUmc School of Medical Sciences, Amsterdam, the Netherlands
- Petra Verdonk, VUmc School of Medical Sciences, Amsterdam, the Netherlands
- Gerda Croiset, VUmc School of Medical Sciences, Amsterdam, the Netherlands
- Rashmi Kusurkar, VUmc School of Medical Sciences, Amsterdam, the Netherlands

#### ABSTRACT

**Introduction:** With the patient population becoming increasingly diverse, in order to ensure equitable healthcare ethnic minority groups should be adequately represented in the medical workforce. Unfortunately, medical students from ethnic minorities underperform compared to the majority group<sup>1</sup>; The reasons for which are not fully understood. Ethnic minority students underrepresented in medicine experience barriers in competing successfully for residency programs and entering academic careers. Non-Western minority students exhibit higher autonomous motivation (acting out of true interest or personal endorsement) than Dutch students.<sup>2</sup> In light of this, their underperformance is even more difficult to understand. We hypothesize that ethnic minority students experience factors at different moments in the medical curriculum that influence their motivation at that moment (situational motivation) and for medical study in general (contextual motivation). This study aimed to explore ethnic minority students' perspectives on their motivation and interactions in medical education.

**Methods:** All medical students from ethnic minority backgrounds, enrolled at VUmc School of Medical Sciences, Amsterdam, the Netherlands, were invited to participate in this qualitative study. Focus groups conducted between December 2016 and May 2017 were audiotaped and transcribed verbatim. Focus groups were conducted until sufficiency for answering the research questions was reached. A constructivist paradigm was adopted for the focus groups and analysis in which knowledge is constructed through interaction between the researcher and participants. Data were coded and analyzed using thematic analysis. This analysis method is used for identifying, analyzing and reporting themes within data. During the analysis an intersectional approach was adopted to study the interactions between gender, race and other categories of difference in individual lives. Three researchers coded the interviews independently and finalized the results through consensus. A diverse team, with different ethnic backgrounds and expertise, together with an intersectional perspective, encouraged reflexivity and generated a holistic picture on this sensitive topic.

**Results:** Six focus groups were conducted, three with pre-clinical students and three with clinical students. Twenty six ethnic minority students (8 male, 18 female) participated in this study. The focus groups varied in size from 3 to 6 students; this was acceptable because of the sensitive topic of the study and allowed us to go into personal narratives. The findings from the focus groups could be categorized as follows: (1) the role of autonomy in the formation of motivation including their own study choice and the role of family, (2) interactions/othering in practice in which hierarchy played a role, (3) interactions/othering in the learning environment like standing up for yourself, (4) influences on academic performance like the role of family, and (5) intersections of culture and gender like being the other based on ethnicity.

**Discussion & Conclusion:** Ethnic minorities experienced that multiple factors influenced their learning, motivation and academic performance, like having a role model, 'being the other' because of their ethnic background, miscommunications, and remarks on their accent. They seemed to experience discrimination and cultural distance. Students expressed that their experiences were a process of growing awareness for them, for example they realized that their appearance matters. Autonomy and family expectations played a great role in forming their motivation. Moreover, students' experiences at a particular moment could demotivate them (situational motivation), but in the longer term they learn to cope with this and continue to be autonomously motivated for their education and their goal to become a doctor (contextual motivation).

## References:

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## #7E Research Papers - Diversity in the Curriculum

### 7E5 (232)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1135-1155

**Location of Presentation:** Hall M, Level 1

### Exploring the influence of undergraduate health professions students at distributed health service facilities

#### AUTHOR(S):

- Ian Couper, Ukwanda Centre for Rural Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa (Presenter)
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#### ABSTRACT

**Introduction:** As academic institutions explore ways to produce a health workforce that meets the needs of both the health system and the communities it serves, distributed training is being adopted as an increasingly common strategy to improve the relevance of medical education and increase graduate retention in underserved communities. There is a growing literature on the student experience at distributed health care facilities, but less is known about how the presence of students influences the site itself. We therefore set out to elicit insights from key role-players at a number of distributed health service-based training sites about the contribution that students make.

The Stellenbosch University Faculty of Medicine and Health Sciences offers differentiated experiences in five undergraduate health professions programmes, which include clinical involvement at multiple district and community health care facilities. As these experiences are premised upon the interdependence between service and education, this study aimed to understand the views of key role-players at these facilities about the contributions made by students and the influence of their presence (Van Schalkwyk et al, in press).

**Methods:** Set within an interpretivist paradigm, this study analysed qualitative data obtained during interviews held at eight purposively selected public health care facilities. A sampling grid was used to select sites that proportionally represented location, level of care and mix of health professions students. The facility manager, one clinical supervisor and another clinician were invited to participate, leading to 24 individual, semi-structured interviews conducted at the participant's place of work. Transcribed data was subjected to thematic analysis. Following an iterative process, initial analyses and code lists were discussed and compared between team members after which the data were coded systematically across the entire data set.

**Results:** Students' contributions were seen to coalesce around three over-arching themes: influence on the facility (culturally and materially); on patient care and community (contribution to service; improved patient outcomes); and on supervisors (enriched work experience, attitude towards teaching role). However, we sought to delve beyond what Elder-Vass (2007) describes as a 'level abstracted view' to obtain a richer understanding of the mechanisms at play beneath what is perceived empirically. Subsequent stratified analysis of the emerging data identified some consequences of taking clinical training to distributed sites. These consequences occurred when certain conditions were present. Further critical reflection pointed to a set of caveats that modified the nature of these conditions, emphasising the complexity inherent in the context.

**Discussion:** This study shows that students have an effect on health care services, at facility, staff, patient, and community levels. This effect is mediated by critical factors, such as clinicians involving students in everyday practices of the clinical team, and enabling the pursuit of their learning outcomes to enhance fields such as evidence-based



practice, holistic care, community projects, etc. In order to achieve this, issues need to be addressed such as the level of the students, space and time, and adequate supervision.

**Conclusions:** Provided certain conditions exist, students in distributed clinical training sites have the potential to make an important contribution to health care, adding value to the health facilities where the training takes places, those responsible for student supervision, and the patients and communities that these facilities serve. In establishing and maintaining relationships with these facilities, academic institutions need to be mindful of the conditions and caveats that may moderate this contribution.

**References:**

Van Schalkwyk, S., Blitz, J., Couper, I., de Villiers, M., Lourens, G., Muller, J., van Heerden, B. (in press). Consequences, conditions and caveats: A qualitative exploration of the influence of undergraduate health professions students at distributed cl

Elder-Vass, D. (2007). Re-examining Bhaskar's three ontological domains : the lessons from emergence. In: Lawson, C., Latsis, J. & Martins, N. (eds.) Contributions to Social Ontology. Routledge.



## #7F Research Papers - Professionalism and Communication Skills

### 7F1 (69)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1035

**Location of Presentation:** L6, Level 1

### Brazilian-Portuguese Translation, Cultural Adaptation and Validity Evidence of Two Scales to Assess Communication Skills in Medical Education

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#### ABSTRACT

This study aims to provide validity evidence for using two scales to assess medical students' communication skills in a simulated environment. The first, the Communication Assessment Tool is a 14-item questionnaire developed by Makoul assessing doctor-patient communication from the patient's perspective. Items are scored according to a five-point scale (1=poor to 5=excellent) and summed to obtain a total score (ranging from 14 to 70). The second, the Analytic Global OSCE Rating Form developed by Hodges and McIlroy to assess four domains of medical communication (empathy, interview coherence, verbal and nonverbal expression) using a likert scale of 5 points completed by the examiner. The authors translated and adapted the original scale into Brazilian Portuguese using translation, transcultural adaptation, back-translation, and content analysis. The adapted versions were applied in a pilot study during the Obstetric Emergency Course of the Ob-Gyn Residency Program at the Medical Sciences School of Unicamp, in two OSCE stations focused on communication. Four simulated patients, four medical examiners, and 28 residents participated in this phase. The second phase consisted of the study of the psychometric properties of the Brazilian-Portuguese version of the Analytic Global OSCE Rating Form. The scale was applied during the clinical skills assessment to 249 students from the fourth to the sixth year of the medical school of Unicamp by 40 examiners. For the Communication Assessment Tool, thirteen of the 14 items of the Brazilian-Portuguese version were considered as "equivalent" by at least 70% of the judges; adjustment was necessary in one item. Regarding content validity, all items were considered relevant by at least 70% of the judges. The Item Content Validity Index ranged from 0.9 to 1 and Scale Content Validity Index was 0.99. The Brazilian-Portuguese version of the Communication Assessment Tool showed good internal consistency (Cronbach's alpha=0.93 and 0.95). Simulated patients considered the tool easy to understand and complete. Results indicate that the Communication Assessment Tool is a valid option for assessing communication skills of medical students. For the Analytic Global OSCE Rating Form, in the content analysis, 9 of 10 experts rated all items as relevant for assessing communication. Forty faculty members then used the scale to assess 249 medical students during a two-station OSCE. The Multifacet Rasch Model demonstrated good model fit. The internal consistency reliability (Rasch reliability of separation) was >0.80 for items and examinees. The Principal Component Analysis suggested an one-factor model for the scale. The Analytic Global OSCE Rating Form had a strong and significant correlation with the estimated examinees' measure ( $r=0.883$ ) but moderate correlations with the clinical skills checklist scores for the internal medicine and Ob-Gyn stations ( $r=0.376$  and  $0.476$ , respectively). The

Brazilian version of the Analytic Global OSCE Rating Form demonstrated good validity. Furthermore, the scale was accurately completed by OSCE examiners, rather than communication specialists. Altogether, the scale may be a useful and robust assessment of communication during OSCEs in medical education.

## References:

Makoul, G.; Krupat, E.; Chang, C. H. Measuring patient views of physician communication skills: development and testing of the Communication Assessment Tool. *Patient Educ Couns*, v. 67, n. 3, p. 333-42, Aug 2007. ISSN 0738-3991.  
Hodges, B.; McIlroy, J. H. Analytic global OSCE ratings are sensitive to level of training. *Med Educ*, v. 37, n. 11, p. 1012-6, Nov 2003. ISSN 0308-0110.



## #7F Research Papers - Professionalism and Communication Skills

### 7F2 (115)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1035-1055

**Location of Presentation:** L6, Level 1

### A roadmap for attending to medical students' professionalism lapses

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#### ABSTRACT

**Introduction:** Attending to professionalism lapses of undergraduate medical students is a demanding and effort-intensive task. While models for managing professionalism lapses have been described in several perspective papers, there is no empirical evidence for a policy regarding the management of lapses. Empirical knowledge about managing professionalism lapses can provide medical schools with research-based tools by which to make decisions about their students (i.e. should a student be allowed to graduate). Furthermore, educators could be more willing to report professionalism lapses, if the school's policy and the effects it has on the learner were clearer to them. The aim of this study was to develop a roadmap for educators attending to medical students' professionalism lapses, aiming to offer an empirical basis for approaching students who display such lapses.

**Methods:** A constructivist grounded theory approach was used to develop an explanatory model for attending to students' professionalism lapses. Between October 2016 and January 2018, 23 in-depth interviews with 19 purposively sampled professionalism remediation supervisors (PRSs) were conducted about the way they handle students' professionalism lapses. PRSs came from 13 different medical schools in the United States; each of them had been responsible for remediation of students' professionalism lapses for at least three years. Four of them were interviewed twice as part of an iterative process of data collection and analysis. Three researchers independently completed coding in three rounds. Data collection, coding, and analysis were performed iteratively, in a constant comparative process, to ensure that the resulting model was grounded in the data. The researchers reached consensus about data sufficiency and the final results.

**Results:** The findings revealed three phases for handling professionalism lapses. Phase 1: Explore and understand, phase 2: Remediate, phase 3: Gather evidence for dismissal [1]. The threshold between phases 1 and 2 was determined by the understanding of PRS and student that remedial teaching was necessary, based on the factors perceived to be contributing towards the lapse. A lack of reflectiveness and adaptability was seen as reason to proceed to phase 3, and thus formed the threshold between phases 2 and 3. PRSs' roles differed per phase. In phase 1 they enacted the role of a concerned teacher, exploring the lapse from the student's perspective. In phase 2, they functioned as a supportive coach, providing feedback on professionalism values, improving skills, creating reflectiveness, and offering support. In phase 3, if the student did not demonstrate reflectiveness and improvement, and especially if (future) patient care was potentially compromised, PRSs assumed an opposite role, that of gatekeeper of the profession. PRSs' different roles could create conflicts of interest.

**Discussion & Conclusion:** The resulting roadmap for attending to professionalism lapses fits in the overarching 'communities of practice' framework [2]. Our findings indicate that in phases 1 and 2, the individuals involved in remediation make a concerted effort into integrating students into the community of practice. If a student does not show progress in reflectiveness and adaptability, as evidenced by an ongoing pattern of lapses despite remedial teaching, he/she is no longer absorbed into the culture of the medical community. This can lead to dismissal. The findings provide support to earlier descriptive, opinion-based models, and may offer medical educators an empirical basis for approaching students who display professionalism breaches. The research was conducted only in the United States, limiting generalizability to other contexts.

## References:

1. Mak-van der Vossen MC, De la Croix A, Teherani A, Van Mook WNKA, Croiset G, Kusurkar RA. A roadmap for attending to medical students' professionalism lapses. *Academic Medicine*, 2018. Published Ahead of Print.
2. Wenger, E. *Communities of Practice: Learning, Meaning and Identity*, 2008. Cambridge University Press.





## #7F Research Papers - Professionalism and Communication Skills

7F3 (149)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1055-1115

**Location of Presentation:** L6, Level 1

### Speaking up amongst Clinical Teachers in a formal meeting of Post Graduate Medical Education (PGME)

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#### ABSTRACT

**Introduction:** The importance of team communication, or more specifically speaking up, for safeguarding quality of patient care is increasingly being endorsed. Speaking up is defined as a sincere and direct manner of communication between individuals. The price of not speaking up is an organisation that does not learn from mistakes. (1, 2) If clinical teachers do not speak-up about mistakes this could harm not only patients but also the learning of residents. We are interested in the way in which clinical teachers apply speaking up behaviours and talk about problems and mistakes. What is still unknown is how speaking up is displayed and interpreted by clinical teachers in the context of their discipline-specific teaching teams. In order to determine how clinical teachers demonstrate speaking up in formal teaching team meetings and what factors influence this, we carried out an exploratory study based on ethnographic principles.

**Methods:** We selected 12 teaching teams and observed, audio recorded and analysed the data. Subsequently, during an interview, the program directors reflected on speaking up of those clinical teachers present during the meeting. Program directors have the formal hierarchical position of head of the clinical teaching team and the formal meeting of PGME are meant to facilitate mutual learning. Finally, we analysed iteratively all data, using a template analysis, based on Edmondson's behaviours of speaking up.(1)

**Results:** The study was conducted from October 2013 to July 2014 and ten teams participated; four from non-surgical specialties, four from surgical specialties and two from the supporting disciplines. The team size varied from 7 to 30 clinical teachers. Although the clinical teachers exhibit most behaviours of speaking up, the extent to which they exhibit this varied and could lack depth. For example "sharing information" strongly resembles providing information and "talking about mistakes" occurs in a general sense and without commitment of improvement activities. "Asking questions" was often displayed by closed questions and at times several questions simultaneously. We identified three factors that influence speaking up by clinical teachers: relational ("people just want to show who's the boss"), cultural ("we know what we think without having to say it") and professional ("it's typical of anaesthetists to give an OK, shut the door and do whatever they want").

**Discussion & Conclusions:** The clinical teachers exhibit speaking up, but there is only limited awareness to discuss problems or mistakes and the discussion centred mainly on the question of blame. Mistakes and conflicts are often neither directed at the individual nor adequately result-oriented. The fact that in the meetings the clinical teachers potentially not learn adequately from mistakes, may have an impact on the quality of PGME. It is likely that clinical teachers could supervise residents better if they themselves knew what it is like to learn from mistakes. Safety is not always felt in teaching teams and the positive effect that speaking up could have on the quality of PGME is largely lacking. This study provides direction for program directors to improve speaking up as a learning process that could help clinical teachers in their task of training residents. (2) If clinical teachers are to develop the behaviours of speaking up, it is important to take into account the relational, cultural and professional factors that influence speaking up in order to stimulate sincere and direct communication during the teaching team meetings.

#### References:

1. Edmondson AC. Teaming: How organizations learn, innovate, and compete in the knowledge economy: John Wiley & Sons; 2012.

2. Dankoski ME, Bickel J, Gusic ME. Discussing the undiscussable with the powerful: why and how faculty must learn to counteract organizational silence. *Academic Medicine*. 2014;89(12):1610-3.



## #7F Research Papers - Professionalism and Communication Skills

### 7F4 (156)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1135

**Location of Presentation:** L6, Level 1

### Students' experiences of workplace dignity during work-integrated learning: A qualitative study exploring student and workplace supervisors' perspectives

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#### ABSTRACT

**Introduction:** While many students are treated with dignity as part of their work-integrated learning (WIL), from the literature we know that students sometimes experience violations of their dignity during WIL (Monrouxe & Rees, 2017). The existing literature typically focuses on students' experiences as narrated by students and is limited to healthcare professions. Instead, the current study aims to better understand both students' and workplace supervisors' perspectives on students' workplace dignity during WIL across multiple healthcare (medicine, nursing and counselling) and non-healthcare professions (education, law and business). The study has the following research questions: What are the: 1) types of student dignity experiences during WIL; 2) factors contributing to experiences; 3) consequences of experiences; 4) common student responses to dignity violations; and 5) patterns in student/supervisor perspectives?

**Methods:** Sixty-five semi-structured interviews were conducted with 30 supervisors and 46 students exploring workplace dignity experiences during WIL, where student dignity was either upheld or violated. Narrative interviewing techniques were employed to capture participants' stories of student dignity experiences. Data were analysed using team-based framework analysis (Ritchie & Spencer, 1994).

**Results:** A total of 344 stories about students' dignity during WIL (105 supervisor-narrated and 239 student-narrated) were identified. Of these stories, 182 were about dignity violations, 137 were about dignity being upheld, and 21 were about dignity being violated then upheld. Nine common narrative types were identified: verbal abuse, right for learning opportunities, care, inclusion, reasonable expectations, right for appropriate feedback, equality, trust, and right to be informed. The factors contributing to workplace dignity experiences were identified at the individual, relational and environmental levels. The most common factors contributing to dignity experiences were at the individual level, with supervisor-related factors (e.g. personality, attitude towards students) more commonly reported by students and student-related factors (e.g. life experience, initiative) more commonly reported by supervisors. The most common consequences of dignity experiences were at the individual level, which were commonly about well-being (e.g. relaxed and confident for dignity upheld; sad and depressed for dignity violated). Increased learning was also identified for both dignity violated and upheld stories. In terms of how students responded to dignity violations, in 53% of stories students did nothing. Other common actions taken by students, in descending order of frequency were: directly raising concerns after the event, discreetly raising concerns after the event, and directly raising concerns during the event.

**Discussion:** The study identifies that both student and supervisor perceptions are similar for the types of workplace dignity experienced by students. However, the factors contributing to the experiences differ in that students tend to attribute supervisor-related factors as contributing to the experiences and vice-versa. In addition, relational and environmental factors were less commonly reported by both students and supervisors. This highlights that more

awareness is needed around the differing factors that contribute to dignity in the workplace. In addition, the study finds that students commonly enact extreme responses in the face of dignity violations: either doing nothing or reporting perpetrators to higher authorities after the events, revealing the need to help students deal more proportionately with dignity violations.

**Conclusions:** This study suggests that future policy and practice should focus on increasing awareness of the factors that contribute to student dignity experiences and on increasing student comfort and opportunity to respond to dignity violations to further enhance student workplace dignity during WIL.

**References:**

Monrouxe, L. V., & Rees, C. E. (2017). Healthcare professionalism: improving practice through reflections on workplace dilemmas. West Sussex: John Wiley & Sons.

Ritchie, J., & Spencer, L. (1994). *Analysing qualitative data*. In A. Bryman & R. Burgess (Eds.), *Qualitative data analysis for applied policy research* (pp. 173–194). London: Routledge.



## #7F Research Papers - Professionalism and Communication Skills

7F5 (175)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1135-1155

**Location of Presentation:** L6, Level 1

### Using empirical ethics to guide clinical communication education: moving beyond abstract and generic communication skills training

#### AUTHOR(S):

- Clare Delany, The University of Melbourne, Melbourne, Australia (Presenter)
- Merle Spriggs, The Childrens Bioethics Centre, The Royal Children's Hospital, Melbourne, Australia
- Maria McCarthy, The Childrens Bioethics Centre, The Royal Children's Hospital, Melbourne, Australia
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#### ABSTRACT

**Introduction:** Doctors are expected to be highly effective communicators. In addition to articulating their clinical reasoning to patients, they can be expected to discuss treatment options, based on likely, as well as hoped for outcomes, and to routinely seek out and include patients' values and concerns, all with empathy and clarity. Pedagogical approaches to teaching skilled communication to clinicians have largely been normative in approach. Clinicians are told that they should communicate using ethical principles of respect for patients' autonomous choices and draw from patient-centred models of communication that include shared decision making. <sup>1</sup> However, these top down and abstract approaches to communication skills education have been criticised for not adequately preparing clinicians for the messy, diverse and ethically complex dimensions of clinical communication. <sup>2</sup> This talk addresses such critiques by showing how findings from empirical research about ethically complex communication challenges encountered by doctors can be used to directly inform communication education.

**Methods:** We used qualitative in-depth interviews to ask 30 paediatricians at a large specialist children's hospital in Australia about specific communication challenges. We were interested in how they encountered and responded to situations where they needed to provide information to parents and children about complex and chronic health conditions including disorders of sexual development; life limiting conditions and parental requests for experimental or unproven treatments. Transcripts of the interviews were analysed using inductive content analysis.

**Results:** We found considerable variation in the types of information given to families and children; when it was given; and for what purpose. For children living with chronic conditions associated with stigma and potential misunderstanding, some clinicians suggested parents should take their cues from questions posed by the child. Uncertainty was expressed about when, and how the truth should be told to children with life limiting illnesses, and whether to offer hopeful prognoses over more realistic illness trajectories. Some expressed concern about damaging the therapeutic relationship with parents should they not act on requests for treatment for which there was little evidence. Models of clinical communication and specific communication skills were not mentioned. Instead participants described their clinical communication as a dynamic and intuitive process of weighing up facts, values and individual circumstances.

**Discussion:** The research findings point to a potential mismatch between on the one hand, formal and generic communication skills education grounded in normative principles of patient-centred care, and on the other, the ethically complex communication challenges encountered in real practice. Based on the research findings, pedagogies suitable for preparing doctors for the complexities of clinical communication need to be (1) pragmatic; focused on applying communication principles to real and diverse examples, and (2) involve interpersonal reflection; to facilitate clinicians to use their communication to draw out and balance the perspectives and values they bring with the values and goals of their patients.

**Conclusions:** By drawing from the empirical realities of clinical practice, the pedagogical focus of teaching skilled communication necessarily shifts from learning abstract and generic communication skills to purposefully cultivating empathic dispositions and capacities for acknowledging and weighing up values, uncertainties, fears and hopes of both the doctor and patient.



## References:

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2. Levetown, M (2014). A desperate need to communicate more effectively with desperate families. *Pediatric Critical Care Medicine*. 373-375



## #7G Point of View 2

### 7G1 (3152)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1025

**Location of Presentation:** Room 1.85-86, Level 1

### Promoting Professionalism through Remediation in Residency Education: support, support, support

#### AUTHOR(S):

- Mary Ana Cordero Diaz, Tecnologico de Monterrey, Escuela de Medicina y Ciencias de la Salud, Mexico (Presenter)
- Carlos Felix Arce, Tecnologico de Monterrey, School of Medicine and Health Sciences, Mexico
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#### ABSTRACT

Addressing unprofessional behaviors among residents promotes professionalism if remediation is embedded within the two communities of practice interacting in the academic health centers: the clinical workplace and the educational space (Kalet & Chou, 2014). The Tecnologico de Monterrey School of Medicine developed a strategy to address unprofessional behaviors with residents.

To achieve effective remediation, we implemented a 4-level strategy adapting, the approach by Hickson et al (2007), to address unprofessional behaviors and a remediation process for the 'difficult trainee', who typically presents with behavioral problems as 'personal conduct that negatively affects or potentially affects patient care' (Kalet & Chou, 2014). Level 0 was a dialogue between resident and a faculty member; Level 1 an intervention by the program director (PD); Level 2 an intervention by PD, medical residency programs director (MRPD) and professionalism director; and Level 3 a formal intervention by GME Dean, Students Affairs, MRPD, PD, and professionalism director.

In one year, 6 cases were addressed following the 4-level strategy: Level 0 'Informal Intervention' not registered; Level 1 'Professionalism Awareness' with 3 residents; Level 2 'Leadership Intervention' with 2 residents; and Level 3 'Disciplinary Action' with 1 resident. 4 cases were peer-related issues and 2 cases related with patient care. The implemented strategy with 6 residents' cases included clear communication and documentation, enabling remediation and disciplinary action when indicated. It is necessary a model for faculty development to support remediation and residents' professionalism education with the understanding that physicians are accountable to society, to their profession, and to themselves.

The CanMEDS 2015 Professional Role underscores physicians' accountability to society and the privilege of physician-led regulation. To promote professionalism within the two communities of practice interacting in the academic health centers a model to support residents' professionalism education and remediation, and a faculty development program for remediation should be established.

## #7G Point of View 2

### 7G2 (3439)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1025-1035

**Location of Presentation:** Room 1.85-86, Level 1

### Set Up to Fail: Do we really believe a learner in difficulty can be successfully remediated?

#### AUTHOR(S):

- Teri Turner, Baylor College of Medicine, USA (Presenter)
- Melissa Carbajal, Baylor College of Medicine, USA
- Linessa Zuniga, Baylor College of Medicine, USA
- Charlene Dewey, Vanderbilt University School of Medicine, USA

#### ABSTRACT

What if the difference between a successful and an unsuccessful trainee in remediation was more about whether or not the teacher(s) believed the trainee would be successful? We have all dealt with learners in difficulty and multiple workshops, articles and books focus on the 'mechanics' of remediation. In a landmark educational article from the 1960's, researchers demonstrated that teacher attitudes and behaviors have a significant impact on student outcomes. They called this the Pygmalion effect. The bottom line is that if we expect certain behaviors from people, we treat them differently - and that treatment is likely to affect their behavior. Thus, whether or not you think a trainee can succeed, you are probably correct and you will behave in a way that triggers/reinforces more of the same behavior on the part of the trainee. If you believe a trainee will not be successful, then this is the first in a series of actions that will trigger the set-up-to-fail syndrome. This interplay between teacher and trainee can be a vicious cycle and in order to successfully remediate a trainee, educators must adopt a growth mindset and create an environmental milieu to set the trainee up for success. We may point a finger at the learner and place blame on the learner when they do not succeed.

This session will challenge this notion and point out those teacher directed actions that contribute to this failure such as setting unrealistic expectations for the learner. The Stages of Change model challenges us to recognize that relapses of behaviors are a normal part of the growth process. During this session, we will also discuss strategies to overcome a group think philosophy in which a learner's poor past performance is continually highlighted. We will challenge the audience to reflect on their own beliefs and assumptions about whether or not every trainee can really be successfully remediated. Participants will leave with a different perspective on remediation and hopefully internalize a growth mindset in regard to their trainees.

## #7G Point of View 2

### 7G3 (2127)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1035-1045

**Location of Presentation:** Room 1.85-86, Level 1

### 'First do no harm' - overdiagnosis and transitioning to the 'expert generalist'

#### AUTHOR(S):

- Oliver Morris, Southampton GP Education Unit, UK (Presenter)
- Laura Sheldrake, Southampton GP Education Unit, UK

#### ABSTRACT

Recognising and attempting to combat the dangers of 'Too Much Medicine' (1) is not new: Balint wrote in 1957 that 'there is danger, not only in missing a physical sign, but also in finding one'(2). Overdiagnosis presents significant risks to our patients, both the physical consequences of unnecessary investigation and treatment, and the emotional and psychological burden that can follow. Wider society also suffers as limited resources are consumed ineffectually, and diverted away from more appropriate interventions.

From our perspective as GP training programme directors, overdiagnosis has had little or no impact upon medical education at undergraduate or Foundation level. The exhaustive investigative approach typical to hospital-based medicine is of limited help to our trainees when faced with their first primary care consultations: (1) 'the art of doing nothing' (2), or even simply less, feels alien. Balancing the potential benefits and harms of action and inaction is a challenging skill to develop. There are significant forces at work, including unease with uncertainty, patient anxiety, societal expectations, external performance targets, 'awareness' campaigns and fear of litigation. We believe that a better appreciation of overdiagnosis will help rebalance these forces and aid our trainees' transition to 'expert generalists'.

We are introducing concepts of overdiagnosis to our training programme in various formats: 'Evidence Based Learning' sessions, 'Clinical Pearl' presentations and small group tutorials delivered by both trainees and programme directors. Overmedicalisation also arises spontaneously as a topic for discussion in small group work, triggered by cases brought by trainees.

We are interested in the views and experiences of other medical educators: is it time for overdiagnosis to feature more prominently in our medical curricula and at earlier stages of training?

1. <https://www.bmj.com/too-much-medicine>

2. Balint, M. The Doctor, His Patient and the Illness; London 1957.

3. Heath, I. The art of doing nothing. The European Journal of General Practice 2012; 18(4): 242-246.

## #7G Point of View 2

**7G4** (2865)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1055

**Location of Presentation:** Room 1.85-86, Level 1

### Connecting the champions: The importance of having the network of like-minded people in developing IPE in Asia Pacific region

**AUTHOR(S):**

- Daniel Richard Kambey, Indonesian Young Health Professionals' Society, Indonesia (Presenter)

**ABSTRACT**

Approximately half of the entire global population residing in or around Asia-Pacific region. The need for quality health care in the region is a must to achieve better health globally. With the growing importance of interprofessional education and collaborative practice around the globe, a similar movement also budding throughout the Asia-Pacific region. However, compared to other regions in the globe, this region is yet to have its own network to support and connect these buds and nurture its champions who will lead the change to transform the health care delivery throughout the region. Some effort was started in Indonesia by establishing the Asia-Pacific Interprofessional Education and Collaboration Network (APIPECnet).

In recent years there is some effort to connect the IPE champions throughout the region. Based on their encounter, the Indonesian Young Health Professionals' Society (IYHPS) managed to identify IPE champions from 14 countries in the region, namely Japan, Indonesia, Hong Kong, Philippines, Thailand, South Korea, Mongolia, Laos, India, Malaysia, Singapore, Sri Lanka, Nepal, and Vietnam. While the stage of implementation varies greatly, surprisingly those champions hardly connected to each other and operating in silos. With that in mind, the initiative to establish the regional conference and network for IPE was taken in 2017, the 1st APIPEC Conference.

The network serves as a platform to connect the IPE champions throughout the region to share best practice, 'know-do' approaches, and to bridge with the wider network of IPE champions through Interprofessional.global. This will allow the audience to be involved in the current global agenda of IPE movement, and the ongoing regional projects.

Developing the network will help to connect the IPE champions in the region and open the doors to collaborative projects. All these efforts are to collectively achieve the bigger goal of improving health service and education in the region.



## #7G Point of View 2

### 7G5 (2140)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1055-1105

**Location of Presentation:** Room 1.85-86, Level 1

### A nationwide collaboration for student councils - the next big thing in student representation

#### AUTHOR(S):

- Erica Aldenbäck, OMSiS (Nationwide network for all student councils at the medical programmes in Sweden), Sweden (Presenter)
- Oskar Krakau, OMSiS, Sweden
- Josefin Wede, OMSiS, Sweden
- Nicole Laszlo, OMSiS, Sweden

#### ABSTRACT

Engaged medical students fill an important role in the continuous maintenance and development of our medical educational system. By both tradition and law, this realization is well established in Sweden. Over the past couple of years, committed students from Sweden's medical schools have taken student engagement even further. Our aim with this presentation is to convey what we have done, why it is a success and inspire to similar initiatives.

Sweden has seven medical educations and approximately 8000 medical students. Each university has a student council with the main purpose of reporting concerns as well as suggesting ideas of improvement. The student educational councils most commonly consist of appointed students representing each class. Furthermore, there are student representatives in all the various executive groups and committees of the faculty. This construction ensures that the student perspective is raised in all aspects of the education. Taking student engagement to the next level, all Swedish medical schools' education councils have collaborated since 2014 in a joint organization called OMSiS. This has three obvious benefits:

- 1) We gather information and solutions. The problems are often very similar across medical schools, however, ways of handling them usually differ. By discussing this we get inspired by solutions from each other and further improve different aspects of our education.
- 2) We also confer other areas such as course evaluations and clinical rotations, workshops and how we can improve mental health among students.
- 3) We are a strong representative voice for the Swedish medical students, resulting in OMSiS answering several memorandums from the government regarding national changes in the medical education system.

The collaboration is relatively easy to sustain and entails clear benefits. We now hope that we may encourage others to similar collaborations, leading to improved educational quality and increased student engagement throughout the world.

## #7G Point of View 2

### 7G6 (1879)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1105-1115

**Location of Presentation:** Room 1.85-86, Level 1

### Let's learn from mistakes - also in education!

#### AUTHOR(S):

- Pekka Louhiala, University of Helsinki, Finland (Presenter)

#### ABSTRACT

According to a professor emeritus of medicine, a doctor who makes no mistakes sees too few patients. By analogy, I'd like to argue, a teacher who makes no mistakes, sees too few students. We learn new things in many ways, and one of the most important ways is learning from mistakes. This aspect of learning was first acknowledged in aviation and later in clinical medicine, but has so far not been very visible in the discussions concerning medical education (e.g. in the AMEE conferences).

In my presentation, I will describe some of my own mistakes in medical education and elaborate the lessons I have learned from them. One of the mistakes was subtle blaming the students in a situation where they were not responsible for the failure of the teaching session.

My main thesis is that we should be more open to learning from mistakes also in medical education. By creating an atmosphere, where we feel safe to discuss not only successes but also failures, we could help each other to become better teachers. This would enhance the learning of our students and in the long run be helpful to their patients also.

## #7G Point of View 2

### 7G7 (3474)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1125

**Location of Presentation:** Room 1.85-86, Level 1

**Student feedback should not influence medical school rankings - the current system is consumerising medical education, to the detriment of both educators and students**

#### AUTHOR(S):

- Hamed Khan, St George's, University of London, UK (Presenter)

#### ABSTRACT

Student feedback has a decisive influence on medical school 'league table' rankings. In theory this is logical - after all, nothing motivates us more than seeing students inspired by our teaching. And teaching must be positively received to be effective. But in my opinion, the influence of feedback has become excessive, and detrimental, to both educators and students. This is compounded by the encroaching marketisation of education, which policies such as tuition fees have exacerbated.

Polymakers in universities associate higher rankings with greater prestige, which they hope will help attract more applicants, and lead to increased student numbers - and ultimately greater financial revenue. As student feedback weighs so heavily in these rankings, educators are encouraged to collect, address and improve it - regardless of its validity and the motivation behind it. Thus educators are forced to adopt a consumeristic approach towards students - where 'the customer is always right'. It becomes difficult to have honest - and sometimes difficult - conversations with students, to enhance their insight and justify teaching policies. In addition, the marketisation of medical-school education encourages rising expectations from students, which they feel entitled to because of their monetary contributions. This leads to a vicious circle, with student expectations, and feelings of entitlement, constantly rising - and educators under rising pressure to unquestioningly do whatever it takes to improve feedback. This fuels resentment and disillusionment amongst educators, who are motivated by their passion for teaching, and their subject of expertise - rather than generating revenue for their institution. This is why I believe that the impact of student feedback on university rankings should be removed - or at least reduced substantially.

Student feedback is fundamentally important - but it is driven by a complex array of factors. These need to be teased out and addressed with nuance and sophistication, rather than in a reactive 'populist' way.

## #7G Point of View 2

### 7G8 (1465)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1125-1135

**Location of Presentation:** Room 1.85-86, Level 1

### Quality in Education - what does it really mean?

#### AUTHOR(S):

- Jo Brown, Barts and The London School of Medicine and Dentistry, UK (Presenter)

#### ABSTRACT

Much is written about quality in education (1) which forms an important part of the governance of every university, and yet what does it really mean? The term Total Quality Management comes from industry and yet has been borrowed by universities and applied to education.

This presentation will look at the changing culture in higher education, the rise of quality as a powerful concept and how quality has been adopted and adapted to manage education, sometimes in unhelpful ways. We shall look at what a subjective concept quality is and explore what quality in education really looks like (2) and what the key ingredients are to bring this about. We shall then attempt to build consensus in the room for a quality agenda and will end with a look at how one English medical school has made sense of quality.

1. Gibbs G. Dimensions of Quality. The Higher Education Academy UK. London, September 2010
2. Biggs J B. From theory to practice: a cognitive systems approach. Higher Education Research and Development. 12 (1) 1993



## #7G Point of View 2

### 7G9 (3204)

Date of Presentation: Tuesday, 27 August 2019

Time of Presentation: 1135-1145

Location of Presentation: Room 1.85-86, Level 1

### Restriction of working hours - Do the residents appreciate?

#### AUTHOR(S):

- Ling-Yu Yang, Department of Medical Education, Taipei Veterans General Hospital, Taiwan (Presenter)

#### ABSTRACT

Taiwan healthcare authority has made policy to restrict residents' working hours to less than 88 hours per week total since 2014 and continuous working hours not more than 28 hours since 2017. Many medical educators, especially the surgical specialists, concern that the training quality and competency of the residents might be inadequate. However, the feedbacks from the trainees upon the policy are less advocated.

We did a general survey with group interviews to inquire opinions from the residents of different programs in a tertiary teaching hospital to assess the impact of restriction working hours on their changes in quality of life and competency of training. The opinions from different residency program cohorts were also compared. The residents, especially the senior residents, did feel restricting working hours had significantly improved their quality of life and decreased the risks of burnout syndrome. But they also concerned the policy might limit their learning intensity and delay the maturation of their professional development. The residents of surgical department did not appreciate the rigid confinement of their working hours. They were worried about their clinical competency and hoped the policy can be more flexible and can get reasonable money compensation from organization if they do the extra working hours.

The point of view is that we may not have a rigid working hour restriction policy for all disciplinary programs. It should be individualized according to the needs of specialist or sub-specialist programs.



## #7H Short Communications - Curriculum: Entrustable Professional Activities (EPAs)

7H1 (2225)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 1.61-62, Level 1

### Evaluation of the AAMC's 13 Core EPAs

#### AUTHOR(S):

- Eric Meyer, USUHS, USA (Presenter)
- Steven Durning, USUHS, USA
- Sebastian Uijtdehaage, USUHS, USA
- David Taylor, Queen's University, Canada

#### ABSTRACT

**Background:** While Entrustable Professional Activities (EPAs) were originally conceived for graduate medical education, the Association of American Medical Colleges (AAMC) proposed 13 Core EPAs in 2014 for undergraduate medical education that defined 'key tasks' US medical students should be entrusted with when starting residency. Shortly after, concerns surfaced about whether these 'core EPAs' met the definition of an EPA. In 2015, a tool for assessing the quality of EPAs was published, named 'EQual rubric,' that used expert consensus to define the three quality domains of EPAs: EPAs as Discrete Units of Work; EPAs as Entrustable, Essential, and Important Tasks of the Profession; and EPA as an Educational Tool. The 14-item rating scale has high reliability and supportive validity evidence. In this study we will seek to determine how well the core EPAs meet quality standards and, if not, which aspects of each core EPA need to be improved.

**Summary of Work:** We designed an assessment tool that combined a training video on using the EQual rubric, descriptions of each of the AAMC's core EPAs followed by the EQual questions, and free text questions. We invited twelve of the most prolific EPA authors to complete the analysis, seven of which agreed - above the minimum requirement of four to achieve our desired reliability. The deadline for completing their analyses is May 2019.

**Summary of Results:** For each core EPA, we will describe the overall EQual score, noting whether each score was above or below the 'good EPA' cut-off. We will also describe the strengths and weaknesses of each EPA, indicating potential areas for improvement.

**Discussion and Conclusions:** The AAMC's core EPAs represent an important step for EPAs in UME: ensuring their quality is important.

**Take-home Messages:** Understanding the strengths and weaknesses of the AAMC's core EPAs should help guide future work.

## #7H Short Communications - Curriculum: Entrustable Professional Activities (EPAs)

### 7H2 (1751)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 1.61-62, Level 1

### Development of EPAs for Teaching in Undergraduate Medical Education

#### AUTHOR(S):

- **Harm Peters, Scheffner Center for Medical Education, Charité - Universitätsmedizin Berlin, Germany (Presenter)**
- Ylva Holzhausen, Scheffner Center for Medical Education, Charité - Universitätsmedizin Berlin, Germany
- Asja Maaz, Scheffner Center for Medical Education, Charité - Universitätsmedizin Berlin, Germany
- Jan Breckwold, Scheffner Center for Medical Education, Charité - Universitätsmedizin Berlin, Germany
- Anja Czeskleba, Scheffner Center for Medical Education, Charité - Universitätsmedizin Berlin, Germany

#### ABSTRACT

**Background:** Entrustable professional activities (EPAs) have emerged a useful concept to operationalize the tasks of physicians related to patient care. Teaching in various contexts represents also professional responsibilities of physicians. Aim of this study is to define teaching activities in undergraduate medical education using the EPA concept.

**Summary of Work:** The study was conducted at the Charité - Universitätsmedizin Berlin and builds on its competency-based, fully integrated undergraduate medical curriculum. A content validation process for teaching EPAs (t-EPAs) was conducted. This process was an iterative, systematic approach from task identification and definition of the supervision level to elaboration of task specifications and corresponding knowledge, skills and attitude (KSA). The approach involved interaction between an interdisciplinary writing team and a validation panel with content expertise.

**Summary of Results:** We identified 13 teaching activities in our undergraduate medical program to be conducted without direct supervision. The t-EPAs were organized in the overarching domains: classroom-based teaching (from facilitating a Problem-Based Learning group to giving a lecture) and workplace-based teaching (from training and supervising of early to final year clerkship students). Tasks of both groups are specified in a behavioral, step-by-step manner. In addition, the specification of class-room-based teaching activities follows the temporally schema: before, during and after the teaching session. The specification of workplace-based teaching activities is centered around the students' achievements on clinical EPAs. The KSA section was used to delineate what foundation and training in teaching is required to perform each of the teaching activity.

**Discussion and Conclusions:** The EPA concept allows a tangible and performance-based operationalization of the teaching activities in an undergraduate medical program. The t-EPAs may support especially new teachers to prepare and conduct their teaching tasks. The performance expectation is uniformly 'without direct supervision'.

**Take-home Messages:** Teaching EPAs may serve as tangible new approach to operationalize the performance expectation for teaching in undergraduate medical education.

## #7H Short Communications - Curriculum: Entrustable Professional Activities (EPAs)

7H3 (3059)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 1.61-62, Level 1

### First-year EPAs for Anaesthesia training - do trainees and supervisors agree?

#### AUTHOR(S):

- Jan Breckwoldt, University Hospital Zurich, Switzerland (Presenter)
- Adrian P. Marty, University Hospital Zurich, Switzerland
- Sarah Schmelzer, Zurich University of Applied Sciences, Switzerland
- Reto Thomasin, Kanton Hospital of Winterthur, Switzerland
- Marco Zalunardo, University Hospital Zurich, Switzerland
- Donat R. Spahn, University Hospital Zurich, Switzerland

#### ABSTRACT

**Background:** Entrustable Professional Activities (EPAs) are proposed a promising concept for specialty training. Mostly, EPAs have been defined by education experts. However, if postgraduate training was conceptualized as an educational alliance, also the perspective of trainees should be included. This might raise concerns that trainees could overestimate their capabilities. Therefore, we let trainees of all stages and supervisors define EPAs appropriate for the first year of training in anaesthesiology.

**Summary of Work:** An expert group of 12 stakeholders (trainees, supervisors, and medical educators) drafted 16 EPAs potentially suitable for independent practice within the first and second year of training in anaesthesiology. Via an online survey all physician trainees and supervisors of two major teaching hospitals were invited to rate these 16 EPAs for appropriateness of independent execution by the end of the first, or the end of the second year of training ('1st-year EPA', and '2nd-year EPA'). Appropriateness was defined by more than 80% concordance between participants. Differences between first-year trainees, more advanced trainees, and supervisors were assessed.

**Summary of Results:** 23 first-year trainees, 98 advanced trainees, and 120 supervisors completed the survey (overall response rate 68%). In all groups consensus for '1st-year EPAs' was reached for the same seven EPAs. For one '2nd-year EPA' ('rapid sequence induction') all trainees found that it could be executed significantly earlier than supervisors did (Chi-square: 4.12,  $p < .05$ , binominal test  $z = -1.73$ ,  $p < .05$ ). For five '2nd-year EPAs' first-year trainees found that these could to be managed significantly earlier than advanced trainees did (e.g. 'rapid sequence induction': Chi-square: 11.46,  $p = .001$ , binominal test  $z = 2.84$ ,  $p < .001$ ).

**Discussion and Conclusions:** The views of first-year trainees on EPAs appropriate for the first year of anaesthesiology training did not differ from the views of advanced trainees and supervisors. Significant differences could be shown for a number of '2nd-year EPAs' which first-year trainees consistently found to be executed earlier than advanced trainees, or supervisors.

**Take-home Messages:** Our results support the hypothesis that trainees and supervisors have a similar view on the appropriateness of EPAs. However, first-year trainees might overestimate their capabilities compared to the view of more advanced trainees and supervisors.

## #7H Short Communications - Curriculum: Entrustable Professional Activities (EPAs)

**7H4** (3222)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 1.61-62, Level 1

### Sequencing Entrustable Professional Activities through a whole-task model for instructional design: An early experience in a Latin-American medical school

#### AUTHOR(S):

- **Alvaro Enrique Romero Tapia, School of Medicine Universidad de La Sabana, Colombia (Presenter)**
- María Inés Maldonado, School of Medicine Universidad de La Sabana, Colombia
- Luis Carlos Domínguez, School of Medicine Universidad de La Sabana, Colombia
- Julio Cesar Garcia Casallas, School of Medicine Universidad de La Sabana, Colombia
- Nancy Patricia Jara, School of Medicine Universidad de La Sabana, Colombia
- Mónica María Díaz, School of Medicine Universidad de La Sabana, Colombia
- Pedro José Sarmiento, School of Medicine Universidad de La Sabana, Colombia

#### ABSTRACT

**Background:** Competency-based Medical Education (CBME) and the Entrustable Professional Activities (EPA) frameworks have confronted part-tasks models of instructional design. Both have started an academic conversation on the complexity of learning at the workplace, in order to develop integrated curriculum, while the compartmentalization and the 'paradox of transfer' are prevented. The Four-Component Instructional Design (4C/ID), a whole-task model, can contribute to overcome these challenges, bringing and translating these frameworks into practice. The evidence these contributions, however, is still limited. We present the early results of an experience in one medical school in Colombia.

**Summary of Work:** A self-assessment (2017), indicated high fragmentation on the intended knowledge, constituent skills and attitudes (KSA), high compartmentalization across basic and clinical disciplines, and recurrent use of traditional methods for teaching. These results encouraged to the faculty to reform the curriculum and move towards a CBME and EPA frameworks. Five task-forces of stakeholders developed the first component of the 4C/ID ('learning tasks'). They identified the main workplace-learning tasks (EPAs), the level of the entrustment decisions, as well as the indicators of performance and the assessment instruments across the new curricula. By using iterative discussions, the task forces lead to the main faculty to sequence these tasks until they reached a consensus.

**Summary of Results:** The 4C/ID contributed to thrive a reflection in the faculty on the fragmentation and compartmentalization in the curricula and build a shared vision of five workplace-learning tasks (EPAs). Sequence of these tasks contributed to diminish the length of the program to six years; and to prepare the faculty, students and organization to introduce new methods for teaching and assessment, and infrastructure, to ensure the level of entrustment decisions.

**Discussion and Conclusions:** CBME and EPA frameworks require translation into practice. Whole-task models are required in this endeavour. Our results illustrate an early experience to bring these frameworks, by sequencing workplace-learning tasks, indicators of performance and assessment across the curriculum. Further stages should include support, procedure information, and part task practice for each EPA.

**Take-home Messages:** The 4C/ID offer opportunities to bring CBME and EPA models together and translate them into practice. Change management and active participation of stakeholders is required in this process.

## #7H Short Communications - Curriculum: Entrustable Professional Activities (EPAs)

7H5 (1319)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 1.61-62, Level 1

### Using Entrustable Professional Activities (EPAs) as curriculum organizers in a major medical undergraduate curriculum renewal

#### AUTHOR(S):

- **Marcelo Garcia Dieguez, Instituto Universitario Hospital Italiano, Argentina (Presenter)**
- Eduardo Durante, Instituto Universitario Hospital Italiano, Argentina
- Sergio Giannasi, Instituto Universitario Hospital Italiano, Argentina
- Dolores Arceo, Instituto Universitario Hospital Italiano, Argentina
- Maria Laura Eder, Instituto Universitario Hospital Italiano, Argentina
- Marcelo Figari, Instituto Universitario Hospital Italiano, Argentina

#### ABSTRACT

**Background:** Outcome-based education has influenced curriculum design in the last decades. Competency-based medical education (CBME) is the prevailing method of outcome definition. However, concerns about CBME have appeared. EPAs are an effort to bridge the gap between the theory of competencies and practical clinical work. In our University, a major graduate curriculum renewal was implemented. Outcomes were defined as EPAs and used as curriculum organizers across the curriculum.

**Summary of Work:** Aim: To provide a description of the innovative use of EPAs as curriculum organizers in a curriculum renewal process Methods: This article describes the process of curriculum renewal at the Instituto Universitario Hospital Italiano (Argentina). A Curriculum Change Committee (CCC) designed and implemented a new integrated outcome- and community- based curriculum with an EPA based structure. In a three-year process,

**Summary of Results:** The graduate profile was defined taking into account the inputs from teachers, graduates, students and general population. This profile was converted into competencies. A set of EPAs, to address these competencies, was written based on available frameworks in the published literature and teachers' consultation. Finally, the 6- year curriculum was organized in three cycles: pre- clinical, clinical and internship. The integrated pre- clinical cycle was organized in six semestral modules around the life cycle and based on PBL and skills labs. Planning groups organized activities around EPAs. Every content, teaching activity or assessment must address one or more EPAs. In each module, the contents (biological, psychological, social etc) of PBL and skills lab activities were integrated using EPAs as curriculum organizers. The 'Professional Practice Lab' was the activity in which the EPAs of the week were completely integrated in order to play 'the whole game' in Perkins' terms. The new curriculum has finished successfully the first year of implementation. Early programme evaluation showed alignment with planned curriculum and high levels of student and teacher satisfaction

**Discussion and Conclusions:** This EPA- based framework for curriculum design shows the possibility of integration between competency-based curriculum and real tasks. Curricular development is an ongoing process and requires further evaluation.

**Take-home Messages:** Using EPAs framework as curriculum organizers guarantees a real outcome-based curriculum plan and implementation.



## #7H Short Communications - Curriculum: Entrustable Professional Activities (EPAs)

7H6 (3230)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 1.61-62, Level 1

### Arrested Development? Measuring Progression of Student Performance by Entrustable Professional Activity (EPA)

#### AUTHOR(S):

- Caroline Milne, University of Utah School of Medicine, USA (Presenter)
- Sonja Raaum, University of Utah School of Medicine, USA
- Katie Lappe, University of Utah School of Medicine, USA
- Danielle Roussel, University of Utah School of Medicine, USA
- Jorie Colbert-Getz, University of Utah School of Medicine, USA

#### ABSTRACT

**Background:** Accurate assessment of clinical skills is an essential component of competency based medical education. While it is anticipated that students' clinical skills will improve over time, there is a paucity of literature on how performance progresses across the clinical years. At the University of Utah School of Medicine our curriculum includes an internal medicine clerkship in year 3 and an advanced internal medicine rotation in year 4. We Implemented the same Entrustable Professional Activity (EPA) aligned evaluation form in both internal medicine courses to allow measurement of skills progression across the clinical years.

**Summary of Work:** Internal Medicine faculty and residents rated students on a 0-4 scale for 7 EPA domains: patient interviewing, physical examination, clinical reasoning, clinical testing, documentation, presentation, and inter-professional teamwork. To date, 50 students have completed both the internal medicine clerkship (Y3 IMED) in AY17-18 and the advanced internal medicine rotation (Advanced IMED) in AY18-19. Students' average EPA domain ratings in Y3 IMED and Advanced IMED were compared with paired samples t-tests and the percentage of students who increased by half point a more for each EPA was computed to determine meaningful differences.

**Summary of Results:** Average ratings were significantly higher in Advanced IMED compared to Y3 IMED for each EPA,  $p < 0.003$  for all comparisons. The percentage of students with ratings half a point higher or more from Y3 IMED to Advanced IMED was 50% for clinical reasoning, 48% for clinical testing, 40% for physical examination and presentation, 38% for documentation, 36% for teamwork, and 30% for patient interviewing.

**Discussion and Conclusions:** Average EPA ratings showed significant improvement from year 3 to year 4. However, meaningful differences were found for 50% or less of students. The lack of meaningful differences could be due to a number of factors: baseline grade inflation, rater inconsistency/biases, insensitivity of the instrument to detect subtle skills development, or plateauing of skills development in the clerkship curriculum.

**Take-home Messages:** Students' clinical skills significantly increase over time, but meaningful differences vary by student and EPA.

## #7H Short Communications - Curriculum: Entrustable Professional Activities (EPAs)

7H7 (443)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 1.61-62, Level 1

### Design and assessment of an EPA based national residents training program: From theory to practice

#### AUTHOR(S):

- **Reinoud Gemke, Amsterdam University Medical Center, the Netherlands (Presenter)**
- Maaïke Smit, Erasmus University Medical Center, the Netherlands
- Janielle van der Velden, Radboud University Medical Center, the Netherlands
- Hein Brackel, Catharina Ziekenhuis, the Netherlands
- Matthijs de Hoog, Erasmus University Medical Center, the Netherlands

#### ABSTRACT

**Background:** Entrustable Professional Activities (EPA's) are broadly adopted in post graduate medical education (PGME), yet evidence about their feasibility in this context is limited. In the Netherlands, a national pediatric residents training program based on 9 generic EPA's was implemented in 2016, supported by 21 clinical presentations that signify reasons for consultation of a pediatrician. The program incorporates a structured process for monitoring and assessment of EPAs, enabling summative entrustment decisions. The objective of this paper is to assess experience with an innovative EPA based national pediatric PGME program.

**Summary of Work:** The procedure for uniform summative entrustment decisions (denoted as Evaluation and Assessment of Residents by Supervisors - EARS) was implemented with an educational program. The EARS-procedure comprises a prolonged observation period by at least 5 staff-supervisors to provide independent input, also including subjective elements (gut-feeling), enabling succinct Clinical Competency Committee (CCC) meetings with comprehensive feedback to the resident. For evaluation of the EARS-procedure, input from invitational conferences, feedback from pilot institutions and from implementation workshops was used.

**Summary of Results:** In 2 years 125 pediatric residents from all 8 Dutch residency regions were trained according to the new program. Application of EPAs as primary goals during PGME and a standardized EARS-procedure were well received by residents and staff. Residents adopted a more (pro)active attitude and a more focused approach for an EPA during their rotations. Despite increased preparation time, staff appreciated the EARS-procedure, enabling more robust high stakes summative entrustment decisions. Endorsed by the Royal Dutch Medical Association application of EPA's and the EARS-procedure are currently implemented in other national PGME programs.

**Discussion and Conclusions:** Issues to be addressed in further development include: Handling of disagreement in CCC meetings, Transferability of EPA's to other units/hospitals and Implementing supervision only on resident's request when an EPA has been obtained.

**Take-home Messages:** In this national pediatric PGME program, EPAs appear feasible tools to assess development, enabling individualized stepwise progress of residents toward unsupervised practice. A structured (EARS) procedure enables summative entrustment decisions in well prepared succinct CCC meetings. Broader application in other settings and/or countries requires adaptations to accommodate differences in health care systems and training programs.

## #7I Short Communications - Assessment: Written and Progress Test

7I1 (2174)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room L2, Level 1

### Comparing psychometric characteristics of short-answer and multiple-choice questions in the NBME internal medicine subject examination

#### AUTHOR(S):

- Amy Morales, National Board of Medical Examiners (NBME), USA (Presenter)
- Polina Harik, NBME, USA
- Miguel Paniagua, NBME, USA
- Matthias von Davier, NBME, USA
- Justin Wolczynski, NBME, USA
- Brian Clauser, NBME, USA

#### ABSTRACT

**Background:** The NBME medicine subject examination is designed to provide standardized assessment of medical students' knowledge. In addition to traditional multiple-choice questions (MCQs), the 2018 administration included open-ended short answer questions (SAQs) that required examinees to type in their answer. The goal of this study is to compare MCQs with SAQs on psychometric characteristics such as item difficulty, discrimination and time intensity of questions.

**Summary of Work:** One hundred items were developed in MCQ and SAQ formats. Item vignettes described patients and their pertinent clinical information. For the MCQ format, examinees were asked to choose an answer from a given set of options. For the SAQ format, examinees were asked to answer the lead-in question such as 'What is the most likely diagnosis?' by typing their response in a free-text entry field. Each examinee saw only one format of an item, and each item was seen by more than two thousand examinees. Using natural language processing algorithms, examinee responses for the SAQs were matched to scoring keys developed by a group of subject matter experts. Item difficulty, discrimination, and the time it took examinees to answer the questions were compared for MCQ and SAQ items using standard statistical significance tests.

**Summary of Results:** Examinees spend slightly more time on SAQ version of an item than on an MCQ, and SAQs appear to be more difficult and discriminating than MCQs.

**Discussion and Conclusions:** In addition to the apparent face validity of SAQs, free-text response items have an added advantage of being more challenging and discriminating than the MCQs. A marginal increase in time intensity of SAQs as compared to MCQs should not significantly impact overall duration allotted for similarly-focused examinations.

**Take-home Messages:** Short free-text response items provide test developers with an opportunity to create more challenging items that better discriminate among examinees with different abilities. SAQs may enhance traditionally MCQs-based assessments because they (1) better reflect the need for making clinical decisions without the cuing that is inherent in the MCQ format and (2) eliminate the possibility of answering an item correctly simply due to chance.

## #71 Short Communications - Assessment: Written and Progress Test

712 (1480)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room L2, Level 1

### Experts' responses in script concordance tests: A response process validity investigation

#### AUTHOR(S):

- Matthew Lineberry, University of Kansas Medical Center and Health System, USA (Presenter)
- Eduardo Hornos, Practicum Institute of Applied Research in Health Sciences Education, Spain
- Eduardo Pleguezuelos, Practicum Institute of Applied Research in Health Sciences Education, Spain
- Jose Mella, Practicum Institute of Applied Research in Health Sciences Education, Spain
- Carlos Brailovsky, College of Family Physicians of Canada, Canada
- Georges Bordage, University of Illinois at Chicago, USA

#### ABSTRACT

**Background:** The script concordance test (SCT), designed to measure clinical reasoning in complex cases, has recently been the subject of several critical research studies. Among other issues, response process validity evidence remains lacking. We explored the response processes of experts on an SCT scoring panel to better understand their seemingly divergent beliefs about how new clinical data alter the suitability of proposed actions within simulated patient cases.

**Summary of Work:** Ten Argentine gastroenterologists who served as the expert panel on an existing SCT re-answered 15 cases 9 months after their original panel participation. They then answered questions probing their reasoning and reactions to other experts' perspectives.

**Summary of Results:** The experts sometimes noted they would not ordinarily consider the cases' proposed actions at all (30/150 instances [20%]) or would collect additional data first (54/150 instances [36%]). Even when groups of experts agreed about how a case's new clinical data affected the suitability of a proposed action, there was often disagreement (118/133 instances [89%]) about the suitability of the proposed action before the new clinical data was introduced. Experts reported confidence in their responses, but showed limited consistency with their responses from nine months prior (linear weighted kappa = .33). Qualitative analyses showed nuanced and complex reasons behind experts' responses, revealing for example that experts were often considering the unique affordances and constraints in their varying local practice environments when responding. Experts generally found other experts' alternative responses moderately compelling (M = 2.93 on a 5-point scale, where '3' is 'moderately compelling'; SD = 0.80). Experts switched their own preferred responses after seeing others' reasoning in 30/150 (20%) instances.

**Discussion and Conclusions:** Expert response processes were not consistent with the classical interpretation and use of SCT scores, as their reasoning shows nuanced considerations and inconsistencies that are not captured by the classical SCT methodology. However, there are several fruitful and justifiable alternatives for using SCT-like methods going forward, such as to guide assessments for learning.

**Take-home Messages:** For those exploring experts reasoning in complex cases, this study suggests the value of bringing new curiosity about how experts respond to SCT cases, along with skepticism about past methods for scoring and judging such reasoning.

## #71 Short Communications - Assessment: Written and Progress Test

713 (3316)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room L2, Level 1

### Does subjectivity play a role on the correlation of written exams with continuous assessment? A third year pilot study at the Lisbon School of Medicine

#### AUTHOR(S):

- Nuno Lupi Manso, Lisbon School of Medicine, Universidade de Lisboa, Portugal (Presenter)
- Paulo Nogueira, Lisbon School of Medicine, Universidade de Lisboa, Portugal
- João Eurico da Fonseca, Lisbon School of Medicine, Universidade de Lisboa, Portugal
- Madalena Patrício, Lisbon School of Medicine, Universidade de Lisboa, Portugal

#### ABSTRACT

**Background:** A variety of formats are used at the Lisbon School of Medicine to assess undergraduate medical students in the different curricular areas. This pilot-study aims to identify if 1. Continuous assessment correlates with written exams; 2. Subjectivity in continuous assessment influences the correlation between continuous assessment and written exams; 3. The correlation between continuous assessment and written exams is stable in Semester 1 and 2. Introduction to the Clinic (IC) and Oncobiology (O) were the selected curricular areas for this study because in both cases the final written exams address the contents of practical classes where tutor/student ratio is 1/12. However, although in both areas criteria are clearly defined for continuous evaluation, tutors' decision is differently supported: while in O there is a short written text in each practical class, in IC there is no such objective data.

**Summary of Work:** Students' grades (O=385; IC\_Semester1=332 / IC\_Semester2=336), were used in SPSS analysis. Scatter plots were obtained and Pearson and Spearman correlation coefficients calculated.

**Summary of Results:** Significant linear correlations between continuous assessment and written exams, with high variability, were found for O ( $r^2=0.269$ , Spearman's  $\rho=0.565$ ) and for IC in both semesters (Semester1  $r^2=0.149$ , Spearman's  $\rho=0.381$  Semester2  $r^2=0.04$ , Spearman's  $\rho=0.195$ ). Correlation was stronger in O, when compared to either semester in IC. Variability was similar in both areas.

**Discussion and Conclusions:** While limitations exist in the current analysis, the fact that continuous assessment in O partially relies on an objective measure of performance may justify a stronger correlation with the exam grade, when compared to IC. As a follow-up to this analysis, it would be interesting to compare each student to himself/herself for each curricular area (as a control) as well as to determine the correlation of continuous evaluation in each curricular area with the student's global grade average.

**Take-home Messages:** The fact that the degree of subjectivity underlying tutors' continuous assessment appears to influence the correlation with written exams, urges teachers to define transparent and objective criteria for continuous assessment.



## #71 Short Communications - Assessment: Written and Progress Test

714 (2626)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room L2, Level 1

### The mistakes we have made in constructing written questions and how you can learn from them

#### AUTHOR(S):

- Ellinor Kenne, Karolinska Institutet, Sweden (Presenter)
- Wilhelmina Ekström, Karolinska Institutet, Sweden
- Charlotte Leanderson, Karolinska Institutet, Sweden
- Riitta Möller, Karolinska Institutet, Sweden

#### ABSTRACT

**Background:** Written assessments are largely used in the assessment of learning in medical education. Although constructing written questions is a common task for teachers less attention is given to the quality assurance of the questions itself. The aim of this study was to explore the quality of summative written assessments in an undergraduate medical program. The written assessments at the studied medical school have never previously been evaluated by teachers from different disciplines.

**Summary of Work:** Peer review of written assessments was conducted by the curriculum committee (CC), comprising 20 senior teachers from all semesters of the program. The committee includes both basic scientists and clinical teachers facilitating collaboration and dialogue across disciplines. Six written summative assessments from basic science and clinical courses were selected for a detailed analysis. The comments were documented and categorized in consensus by the authors.

**Summary of Results:** The most common flaws were categorized in three groups: 1) Indistinct wording, i.e., the questions were inaccurate and/or difficult to understand. Moreover, the wording was sometimes unnecessarily long including information not needed to answer the question; 2) Unclear point value of questions, or that a point value of a question did not match that of other questions in the same exam; 3) In SBA questions, that distractors were not homogenous or plausible.

**Discussion and Conclusions:** The primary aim of testing is communicating what is considered important. We show that peer review of summative assessments may identify mistakes not noticed by those involved in the examination. In addition, it will help teachers grasp how exams align with learning outcomes and how questions are perceived by teachers from other areas. Advantages of the peer review included dialogue between basic scientists and clinicians that may bridge possible gaps between study years and disciplines as well as identification of relevant knowledge.

**Take-home Messages:** Peer review of written assessments is highly recommended as an addition to faculty development in question writing. Think ahead how you will score your assessment!

## #71 Short Communications - Assessment: Written and Progress Test

715 (414)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room L2, Level 1

### Content Validity Assessment after Syllabus Revision

#### AUTHOR(S):

- **Agneta Månsson Broberg, Karolinska Institute, Sweden (Presenter)**
- Charlotte Leanderson, Karolinska Institute, Sweden
- Wilhelmina Ekström, Karolinska Institute, Sweden
- Peter Henriksson, Karolinska Institute, Sweden
- Riitta Möller, Karolinska Institute, Sweden

#### ABSTRACT

**Background:** The medical program at the Karolinska Institute performed a major revision of most syllabi to secure a consistent structure for summative assessment of all national learning outcomes. The revised syllabi were based on taxonomic categorization of course-specific learning outcomes (csLO) and followed by a revision of written assessments. Our study aims to describe the relation between the revised syllabi and the yet unrevised summative assessments.

**Summary of Work:** 80% of the basic course leaders participated (n=12) in an interactive workshop (WS1) where the task was to relate every single item of their summative assessment to the csLOs and to perform a taxonomic levelling. The results were discussed and analysed in relation to the new course syllabus and presented at a second workshop (WS 2).

**Summary of Results:** csLO were summatively assessed in by the written exam in 58% of the PBCs. In 33 % individual items were predominantly constructed at a too basic level in relation to the taxonomic levelling of the revised syllabi.

**Discussion and Conclusions:** With this study we point out the need of revision of all associated summative assessment of all LO is crucial. The course teams internal analysis' resulted in rerevision of syllabi in 2 cases, revision of item construction in 4 cases, and total transformation into a true outcome based assessment in 1 case.

**Take-home Messages:** Assessing content validity with blueprinting and taxonomic levelling of summative assessments is fruitful in follow-up quality control after syllabus change. Well-structured syllabi contribute to the creation of constructive alignment, but only in resonance with the summative assessments.

## #71 Short Communications - Assessment: Written and Progress Test

716 (1348)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room L2, Level 1

### Implementation of progressive competency based assessment of clinical skills in an MD program: Evaluation of impact on student learning

#### AUTHOR(S):

- Margo Lane, Griffith University, Australia (Presenter)
- James Senior, Griffith University, Australia
- Armin Ariana, Griffith University, Australia

#### ABSTRACT

**Background:** At Griffith University Graduate Entry MD program, students commence clinical skills workshops across the domains of professional communication and counselling skills, procedural and physical examination skills from the beginning of Year 1 with extensive use of simulation. Students' competency across these domains was previously assessed by one summative end of year OSCE. Multisource feedback from academic staff, students and clinical teachers, identified several challenges, including insufficient supervised practise of physical examination and procedural skills, lack of confidence utilizing these skills in the clinical environment, lack of formative assessment and high student anxiety regarding end of year summative assessment.

**Summary of Work:** This presentation will detail the implementation and evaluation of a program of progressive competency-based assessment of physical examination and procedural skills into Year 1 MD in 2018. The evaluation methodology included pre- and post-intervention surveys related to the gastrointestinal physical examination module as well as focus groups. Separate focus groups were facilitated for medical students and facilitators by two researchers at the end of the 2018 academic year, utilizing a semi-structured interview process. The focus groups were recorded, transcribed and thematically analysed.

**Summary of Results:** Preliminary key findings will be presented at the AMEE conference in 2019.

**Discussion and Conclusions:** Our hypothesis is that the embedding of multiple low stakes clinical skills assessments across the academic year with increased supervised practise and formative assessment will positively impact on student learning and acquisition of relevant skills.

**Take-home Messages:** Implementation of progressive competency-based assessment of clinical skills is both feasible and acceptable to students and staff, and has a positive impact on student learning.

## #7J Short Communications - Humanities 2

7J1 (2903)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.31-32, Level 0

### The Role of Narrative Medicine as a Didactic Resource in Humanistic Education of Medical Students

#### AUTHOR(S):

- Pablo Blasco, SOBRAMFA - Medical Education And Humanism, Brazil (Presenter)
- Maria Craice De Benedetto, SOBRAMFA - Educação Médica e Humanismo, Brazil
- Dante Gallian, Escola Paulista de Medicina - Universidade Federal de São Paulo (UNIFESP), Brazil

#### ABSTRACT

**Background:** The biomechanical model of teaching and practice of medicine is responsible for innumerable advantages to patient care. For not considering the subtle dimensions of human being, so important in the way individuals become ill and in healing processes, such a model presents limitations and may have contributed to the dehumanization in public and private health observed in our country, Brazil. Strategies to address the issue depend on the presence of well-trained health professionals from a technical and humanistic point of view. The greatest deficiencies concern humanistic education.

**Summary of Work:** The object of this study was an elective discipline named Narratives in Health - a way to humanization, which was addressed to two groups of twenty-five students of a public medical school in São Paulo, Brazil, in which narratives - reports of heart transplant recipients and their relatives, medical narratives emerged in Palliative Care and literary narratives - were used to promote reflexion about humanistic questions. The data were collected from three sources: participant observation, interviews of students obtained through Oral History Approach and narratives presented by students in a narrative session. Data were interpreted by immersion/crystallization techniques.

**Summary of Results:** From data emerged subtopics, which were organized in major themes: from the death to the rebirth of narrative; breaking the isolation to recognize emotional issues; empathy; hidden curriculum; from narratives to humanization.

**Discussion and Conclusions:** The results of didactic experience show that, in a short period, it was possible to cover many of the essential issues that permeate the life of health professionals. The narratives represented a stimulus and a means for reflection, favouring an improvement of interpersonal relationships, the contemplation of affectivity and the recognition of the constant need for searching meaning in health practices.

**Take-home Messages:** Stimulating reflexion about difficult issues in medical students and giving them resources for that is a powerful instrument to educate humanized doctors.

## #7J Short Communications - Humanities 2

7J2 (1691)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.31-32, Level 0

### Humanities in Medicine and the Art of Healing: Shared experience of integrating Humanities in Medical Residency Training

#### AUTHOR(S):

- **Abd Moain Abu Dabrh, Mayo Clinic Florida, USA (Presenter)**
- Stephen Trigg, Mayo Clinic Florida, USA
- Chrysanthé Yates, Mayo Clinic Florida, USA
- Elizabeth Mattson, Mayo Clinic Florida, USA
- Tara Bringham, Mayo Clinic Florida, USA
- Nell Robinson, Mayo Clinic Florida, USA

#### ABSTRACT

**Background:** Humanities in Medicine (HiM) uses the arts, literature and other cultural disciplines as strategies to enhance critical thinking, communication skills, empathy and work-life balance for all stakeholders in healthcare and medical education (MedEd). There is paucity in evidence about structure, integration, and sustainability of multi-faceted HiM curricula into MedEd.

**Summary of Work:** 1- The Family Medicine Residency Program (FMRP), in collaboration with its Center for Humanities in Medicine, at Mayo Clinic Florida (MCF) established the FM-HiM program as part of the FMRP core curriculum. 2- The structure involves one hour sessions held monthly on campus, and four half-day sessions held quarterly offsite; faculty and trainees (participants) experience different types of humanistic activities; examples of established activities include visits to museums and musical venues, painting, sculpting, music therapy, meditation, yoga, using horticulture, and Medical Improv. These activities build on community partnerships and collaborative educational work with various cultural institutions. 3- These activities aim to encourage creative self-expression, increasing workplace joy through shared experiences and promoting work-life balance. 4- Concurrently, the educational goals emphasize communication skills and professionalism milestones growth. 5- At the end of each seminar, attendees interpret HiM activities and share stories in narrative, reflective essays.

**Summary of Results:** FM-HiM was established in 2012; due its highly-perceived value by participants, the program has grown from biannual offerings to its current format. Through pre/post reflective, short surveys, participants consistently expressed high ratings of joy, satisfaction, and a sense of minimized burden. We also solicit participants opinions and ideas for future HiM activities to encourage a sense of belonging and inclusion.

**Discussion and Conclusions:** Current MedEd prepares trainees to become clinicians, with empirical focus on medical and technological advancements and regulations. This may inadvertently provided a culture that undermines the true healing mission of medicine, leading to higher prevalence of burnout. Through this quality improvement experience, implementing HiM as part of core curricula provides opportunities for self-growth, exploration, creative expression, understanding of empathy as well as the professional environment; the same goals of core competencies and milestones of MedEd.

**Take-home Messages:** HiM complements MedEd and training by supporting the growth of a 'humane clinician;' thus, HiM and the practice of medicine are synergistic.



## #7J Short Communications - Humanities 2

7J3 (1862)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.31-32, Level 0

### Person-centred Art Experiential -The Medical Student's Journey Within

#### AUTHOR(S):

- Ying Pin Toh, National University Hospital Singapore, Singapore (Presenter)
- Elizabeth Mei Qi Chan, National University Hospital Singapore, Singapore
- Jasline Xin Ying Chua, National University Hospital Singapore, Singapore
- Vivian Wong, Assisi Hospice, Singapore
- Choon Ling Lian, Freelance, Singapore
- Victor Weng Keong Loh, National University Hospital Singapore, Singapore

#### ABSTRACT

**Background:** Creative art has been demonstrated validate a learner's individual experiences and emotions in patient encounters and facilitates perspective taking. This study seeks to understand the students inner experience in reflecting on their patients journey through art.

**Summary of Work:** Third-year medical students were invited to participate in a half-day person-centred art experiential. Participants were invited to select a patient and were given a person-centred reflection tool to guide their reflections. These events were held in groups of 6-8 facilitated by 2 trained art therapists, who explained the use of art for reflection, and introduced collage as the art directive. Audio-recording of the students sharing at the end of the art experiential was transcribed by a third party and anonymised. Transcripts and students reflective notes were coded and thematically analysed.

**Summary of Results:** Students expressed that the art experiential provided a safe, comfortable and free space where they could trust their feelings and opinions would be dealt with sensitively and with respect. The experience was described as therapeutic and cathartic, and in the words of a student as though the wall in my heart had been broken down. The art-making engaged their visual senses facilitating the processing of the affective aspects of their experience, allowing them to face their own vulnerability and humanity in the face of their patients illness and suffering. Some students approached the art-making as creating a legacy to commemorate patients who passed on, providing closure.

**Discussion and Conclusions:** Art-making provides rich and deep reflective experience for students, it facilitates the development of students self-awareness and validates of their own responses to their patients journey thus keeping them human in the face of an increasingly technically complex healthcare environment. Whilst students are constantly challenged with cognitive overload in training for clinical competencies, it is also crucial for educators to remember that students and doctors are first and foremost human and need a safe space to express and process their day to day clinical experiences.

**Take-home Messages:** Art-making engages the visual and tactile senses to facilitate reflection, allowing participants to engage their affective selves. The art reflective exercise allowed students to connect with their own and their patients humanity.

## #7J Short Communications - Humanities 2

7J4 (1043)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.31-32, Level 0

### The “Vertical Domains” at the University of Minho Medical Course: a longitudinal experience of student immersion in humanities applied to clinical practice

#### AUTHOR(S):

- Nadine Santos, University of Minho, School of Medicine, Portugal (Presenter)
- João Bessa, School of Medicine, University of Minho, Portugal
- Pedro Morgado, University of Minho, School of Medicine, Portugal
- Nuno Sousa, School of Medicine, University of Minho, Portugal
- João Cerqueira, School of Medicine, University of Minho, Portugal
- Cecília Leão, School of Medicine, University of Minho, Portugal

#### ABSTRACT

**Background:** Based on a person-centred anthropological model the University of Minho Medical School (Braga, Portugal) has been a pioneer in the implementation of an holistic medical education in its curriculum. The 'concept' of humanism emerges as a genuine concern of the School in its strategy for the centrality of the human person at the core of learning. This humanist vision is formally inscribed in the study plan in the 'Vertical Domains (DV)' curricular units -termed DV1, DV2, DV3, DV4 and DV5, corresponding to each year of studies.

**Summary of Work:** In each year of studies, across the 5 formative years, the student is exposed, per year, to 9 separate sessions, of 4hrs each, across the modules 'Ethics, Bioethics and Scientific Integrity', 'Forensic Medicine', 'History of Medicine', 'Arts and Literature', 'Palliative Medicine and Human Integrity' and 'Workshops in Medical Humanities'. Each session starts by either a short seminar, a film visualization, or a book reading, followed by group work, and, finally, a final interactive discussion. Topics covered include medical ethics, human rights, art, literature, creeds and religions, solidarity and citizenship. It also includes two moments of workshops.

**Summary of Results:** Every year the students perception on the functioning of the DVs is collected via a questionnaire. The results are overall very positive, encouraging the continuity of these units in the medical course. In the most recent 6 years, on average, 89% of students ranked the Vertical Domains curriculum as Excellent.

**Discussion and Conclusions:** In addition to students satisfaction with this pedagogical format of integrating humanities education into their training, it is our conviction that we are contributing to the formation of more educated health professionals with values, knowledge, sensitivities, attitudes and behaviours in future medical professionals who will certainly be active promoters for humanisation in health care.

**Take-home Messages:** Are strong points of approach the curricular integration between the DVs, and across the school years, with the curricular units, fomenting the student learning at all levels. In terms of Awareness Indicators, it is of note the positive perception of the DVs by the students and the positive informal feedback regarding the attitudes and caring displayed by the students in the clinical context.

## #7J Short Communications - Humanities 2

7J5 (2432)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.31-32, Level 0

### Evaluation of Medical Humanities Course in College of Medicine Using the Context, Input, Process, and Product (CIPP) Evaluation Model

#### AUTHOR(S):

- So-young Lee, Seoul National University College of Medicine, Republic of Korea (Presenter)
- Seung-Hee Lee, Seoul National University College of Medicine, Republic of Korea
- Jwa-Seop Shin, Seoul National University College of Medicine, Republic of Korea

#### ABSTRACT

**Background:** The College of Medicine of the Seoul National University has provided a new Medical Humanities Course on the basis of the competence-based curriculum since 2016 in order to improve the quality of the education. In this study, course of medical humanities was evaluated by the Context, Input, Process and Product (CIPP) evaluation model, based on a representative education evaluation theory, in order to identify the aspects requiring improvement.

**Summary of Work:** This study analyzed the course of medical humanities, provided to the freshmen and sophomores in 2017 and to the freshmen, sophomores, and juniors in 2018. Firstly, an evaluation criteria and indicator were developed according to the CIPP classification. The materials collected from the course were analyzed by the data analysis spiral according to the evaluation criteria. An independent sample t-test was performed to verify the difference in the responses between the students and the professors. In addition, a correlation analysis and a multiple regression analysis were performed to analyze the relationships between the detailed elements of the context, input, process, and product.

**Summary of Results:** The results of the survey on Medical Humanities Course showed that responses of students were more positive in 2018 than in 2017. In the context evaluation, the goal of the class was clear. In the input evaluation, the methods of education were appropriate. The product evaluation showed that the satisfaction to the education course and the students academic accomplishment were high. However, in the overall result of the analysis, there was a difference in the opinions of professors and students.

**Discussion and Conclusions:** The results of this study showed that there is a difference in the recognition of the overall CIPP elements between the students and the professors. Therefore, the school and the professors should effort to elevate the students appreciation for the courses related to humanities and social medicine and to motivate the students in this regard.

**Take-home Messages:** Evaluation result of Medical Humanities Course in College of Medicine Using the CIPP Evaluation Model, there was a difference in the opinions of professors and students in most of the criteria.

## #7J Short Communications - Humanities 2

7J6 (2396)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.31-32, Level 0

### Evaluation of a novel workshop to improve students' confidence in dealing with challenging workplace culture: a pilot study

#### AUTHOR(S):

- Louise Nash, University of Sydney, Australia (Presenter)
- Kimberley Ivory, University of Sydney, Australia
- Karen Scott, University of Sydney, Australia
- Paul Dwyer, University of Sydney, Australia
- Claire Hooker, University of Sydney, Australia
- Sabrina Pit, University of Sydney, AUstralia

#### ABSTRACT

**Background:** Mistreatment, burnout, depression, safety and suicide among healthcare trainees and students are significant concerns. Applied theatre is often used to air difficult social issues, including in healthcare. Sydney Arts and Health Collective developed the verbatim theatre play *Grace Under Pressure* from health professionals' personal stories, which premiered, with great success, in Sydney in 2017. A teaching package using short video excerpts and interactive exercises to prompt guided discussion of significant issues was developed and trialled in workshops with healthcare students. We explored whether the workshops helped students critically reflect on healthcare culture and develop personal awareness and supportive strategies.

**Summary of Work:** In October 2018, two workshops were held with nursing, medical and allied health students at the University Department of Rural Health in Lismore, Australia. These were evaluated through pre-/post-surveys comprising demographic items, four five-point Likert-scale items (concerning perceptions of confidence in seeking help for depression, understanding mandatory reporting laws of health professionals, seeking help with mistreatment, and not driving when tired) and three free-text items seeking suggestions for improvement. Improvement and decline in confidence/understanding were measured by change of at least one point on the five point Likert-scale. Qualitative data were analysed using content analysis.

**Summary of Results:** Workshop One comprised 49 students from allied health, medicine and nursing. Workshop Two comprised 16 medical students. There was improvement in confidence in all closed-item topics, but each also showed a smaller percentage of decline. Understanding mandatory reporting laws improved most (36/63 students, 57%), but there was some decline (6/63, 10%) and some remained the same (21/63, 33%). Free text analysis showed students valued the use of real stories and interdisciplinary discussions, and wanted more information on mandatory reporting. 'Tiny tips' about interventions by bystanders to prevent bullying were well received.

**Discussion and Conclusions:** Theatre-based workshops can help students reflect on issues in healthcare culture and develop supportive strategies. Some lost confidence in workshop topics, possibly through increasing appreciation of issues' complexities, following the 'conscious competence' learning model.

**Take-home Messages:** Theatre-based workshops on challenging situations may help improve students' confidence in managing complex professional issues and promote changes in workplace culture.

## #7K Short Communications - Continuing Professional Development 2

**7K1** (2818)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.14, Level 0

### The impact of a Work-life Balance (WLB) assessment on doctors' continuing professional development and performance

#### AUTHOR(S):

- **Jeremy Ferguson, Blackmore Vale Practice, UK (Presenter)**
- Kerry Ball, Research Consultant and Senior Lecturer in Education, University of Winchester, UK
- Duncan Walling, FourteenFish, UK
- Samantha Scallan, GP Education Unit, UK
- Johnny Lyon-Maris, GP Education Unit, UK

#### ABSTRACT

**Background:** Clinician wellbeing, stress and burnout have been the focus of increasing research activity in recent years and is an area of educational development for intervention /support. This is in recognition of the impact of clinician health and wellbeing on performance, and caregiving ability for patients. There is a growing body of literature around medical student and trainee experiences, however less in relation to post-qualification experience and support as part of continuing professional development.

**Summary of Work:** The present work sought to embed an opportunity for reflection on GP health and wellbeing in the appraisal discussion. A series of questions concerning work-life balance (WLB) (n.26) were added to an online appraisal portfolio to gather information on the impact of clinical work on GPs and allow users an opportunity to think about this in relation to their own experience. Appraisees' views of the value of these questions was also evaluated using a qualitative approach. This work presents findings from data gathered and reflection on the value of this opportunity by appraisees.

**Summary of Results:** 1046 GPs provided information on aspects of their work-life balance. Descriptive analysis of the data indicated that there was a blurring of boundaries between the two, where home life activities would be impacted by work demands, and areas where there was 'work leakage' for example working through lunch. Further statistical analysis is underway to identify deeper trends and relationships within the data. 88% of participants found the WLB questions useful for reflection, in particular to think more deeply about different aspects of WLB, and to compare their answers with their peers. The questions served to surface issues the participants were aware of, and for some, to prompt change or the intention to change.

**Discussion and Conclusions:** The appraisal discussion presents a golden opportunity to reflect on the demands of clinical work and their impact, as well as to support positive behaviour change.

**Take-home Messages:** GP health and wellbeing should form an area for discussion in appraisal, beyond the standard requirements of a health declaration. The appraisal interview can act as a driver for change.



## #7K Short Communications - Continuing Professional Development 2

### 7K2 (323)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.14, Level 0

### Fostering organizational compassion in the ICU through the Three Wishes Project

#### AUTHOR(S):

- **Meredith Vanstone, McMaster University, Canada (Presenter)**
- Marina Sadik, McMaster University, Canada
- Marilyn Swinton, McMaster University, Canada
- France Clarke, McMaster University, Canada
- Feli Toldedo, St. Joseph Healthcare Hamilton, Canada
- Deborah Cook, McMaster University, Canada

#### ABSTRACT

**Background:** Clinicians working in the ICU are at substantial risk of compassion fatigue, vicarious traumatization, and burnout. Current descriptive and interventional research on burnout tends to focus on individual solutions, rather than the organizational and structural contributors to occupational distress. Heeding the call to recognize systemic contributors to burnout, we describe multi-center implementation of the 3 Wishes Project (3WP), a simple intervention designed to humanize end-of-life care for patients dying in the ICU, their family members, and their clinicians. In this study, we focus on the ways in which this project has succeeded in fostering compassion in three Canadian ICUs, while also improving clinician experiences of the workplace. This research asks: how does the 3WP influence the way ICU clinicians experience and exhibit compassion at work?

**Summary of Work:** After implementing this end-of-life project in hospitals in Hamilton, Toronto, Vancouver (Canada), we used a qualitative descriptive approach to collect interview and focus group data. We performed thematic analysis on transcripts of 10 clinician focus groups and 19 manager interviews. We used the theoretical framework of Organizational Compassion to orient ourselves to the ways that individuals experience distress and exhibit compassion within their place of employment.

**Summary of Results:** The 3WP is described as valuable because it supports clinicians to recognize and demonstrate latent compassion lost in the transactional or stressful aspects of practice. The project fosters ways for clinicians to re-discover and demonstrate their innate compassion by: giving clinicians a programmatic vehicle to connect with patients and families beyond performing technical tasks; offering opportunities to provide care for patients and families when cure is no longer possible; and acknowledging, then addressing, the suffering that they witness every day.

**Discussion and Conclusions:** The 3 Wishes Project is an example of an organizational intervention which can improve clinician experiences of work by creating pathways through which to forge meaningful, human connections with colleagues, trainees, patients and family members. By encouraging a different way of engaging, the 3WP helps clinicians to more fully experience how their daily work aligns with the central mission of their healing vocation.

**Take-home Messages:** - Burnout requires an organizational response - 3WP demonstrates value in recognizing and eliciting organizational compassion.

## #7K Short Communications - Continuing Professional Development 2

**7K3** (2618)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.14, Level 0

### Developing and piloting a well-being program for hospital-based physicians

#### AUTHOR(S):

- **Maarten Debets, Amsterdam UMC, AMC, the Netherlands (Presenter)**
- Kiki Lombarts, Amsterdam UMC, AMC, the Netherlands
- Nathalie Hugenholtz, Veiligheid NL, the Netherlands
- Renée Scheepers, Erasmus University, the Netherlands

#### ABSTRACT

**Background:** Physicians' well-being is under pressure, likely harming patients, the physician workforce and healthcare systems. Well-being related problems are primarily caused by factors in the work environment. However, most well-being interventions focus on improving individual physicians' skills and on reducing burnout. By focusing on cultivating positive work environments, all physicians are stimulated to thrive. We describe the development and pilot outcomes of a well-being program for hospital-based physicians in the Netherlands.

**Summary of Work:** From October 2016, the program was developed in three consecutive steps: literature review, needs assessment and design. The program was designed using the JD-R framework and consisted of: an online well-being and work environment assessment, facilitated team discussions and team training job crafting. Team meetings used the appreciative inquiry method. That is, focusing on identifying what is working well and doing more of it. Next, the program was piloted from April until September 2017.

**Summary of Results:** In total, 352 physicians from multiple hospitals completed the assessment. We pilot tested four facilitated team discussions and two job crafting training sessions. Physicians' experienced the program as feasible and applicable in the medical work environment. Assessment questions were recognizable and represented physicians' work. Physicians valued discussing well-being and their work environment in a structured, theory-based way. Knowledge sharing and discussing personal interests led to practical well-being improvement plans. Physicians experienced team training as positive due to gained insights in their own and colleagues' weaknesses, strengths and preferences. Hence, some exchanged tasks accordingly.

**Discussion and Conclusions:** The program developed seems to offer a flexible system to monitor, maintain or enhance physicians' well-being in various work context. Physicians experienced time investment for the meetings as a barrier. However, after completion of their well-being assessment, teams were more prone to participate in the facilitated discussions. This indicates that initiating an assessment might contribute to a culture in which well-being can be discussed or problems are revealed that need to be addressed.

**Take-home Messages:** 1) Hospitals are recommended to provide and sufficiently facilitate well-being programs for physicians. 2) Careful attention should be paid to initiating well-being measurements, its consequences and follow-up.

## #7K Short Communications - Continuing Professional Development 2

**7K4** (2244)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.14, Level 0

### Where have all the doctors gone? The UK Foundation Programme careers destination survey 2011-2018

#### AUTHOR(S):

- Clare Van Hamel, UK Foundation Programme, UK (Presenter)
- Mike Masding, UK Foundation Programme, UK
- Alexander Hollis, UK Foundation Programme, UK
- Oluseyi Adesalu, UK Foundation Programme, UK
- Russell Smith, UK Foundation Programme, UK
- Clare McKenzie, UK Foundation Programme, UK

#### ABSTRACT

**Background:** The UK Foundation programme undertakes an annual careers destination survey of doctors at the end of their second year of practice. We assessed trends over 8 years in their self-reported career intentions.

**Summary of Work:** Every year between 2011 and 2018, all UK Foundation Year 2 (F2) doctors were surveyed about their career intentions. The number of responses ranged from 6,407 (86.8%) to 7,168 (95.2%). The data were recorded and analysed to assess trends.

**Summary of Results:** The number of F2 doctors reporting that they will directly enter specialty training has fallen year on year from 4,908 (71.3%, 2011) to 2,415 (37.7, 2018), with numbers choosing to remain in the NHS workforce also decreasing from 5,479 (79.6%, 2011) to 3,927 (61.3%, 2018). The proportion of F2 doctors choosing to do non-NHS work has increased from 206 (3%, 2011) to 577 (9%, 2018), whilst there has also been a marked increase over time in doctors leaving medicine or taking a career break from 324 (4.7%, 2011) to 948 (14.8%, 2018). The number of doctors indicating they will work abroad remained unchanged over this time period (819, 11.9% in 2011, 724, 11.3% in 2018).

**Discussion and Conclusions:** We report the results of a unique national survey of the career intentions of doctors following completion of FY2. These results highlight a steady decrease in the number of doctors who are intending to directly enter specialty training and remain in the NHS workforce post foundation training. Equally concerning is the significant increase in foundation doctors who are intending on leaving the profession or taking a career break away from medicine. These findings are in contrast to the current popular narrative that declining specialty training numbers are simply due to doctors leaving to work abroad.

**Take-home Messages:** After finishing their second year of UK practice:

- The numbers of doctors who remain working in the NHS is decreasing.
- The numbers of doctors going into non-NHS work is increasing.
- The numbers of doctors leaving medicine or taking a career break is increasing.
- The numbers going abroad is static, there is no evidence of an increasing international 'brain drain'.

## #7K Short Communications - Continuing Professional Development 2

7K5 (3225)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.14, Level 0

### Applied Drama Techniques in Obstetrics: Development of a Novel Educational Workshop to Improve Obstetrician Awareness of Compassion, Communication and Self-Care around the time of Stillbirth

#### AUTHOR(S):

- Aisling Smyth, Royal College of Physicians of Ireland (Presenter)
- Karen McNamara, Cork University Maternity Hospital, Ireland
- Lucia Prihodova, Royal College of Physicians of Ireland
- Chris Fitzpatrick, Coombe Women and Infants University Hospital, Ireland
- Keelin ODonoghue, The Irish Centre for Fetal and Neonatal Translational Research, Ireland

#### ABSTRACT

**Background:** Obstetricians have described feeling shocked, sad, isolated, afraid, angry and traumatised in the aftermath of a stillbirth. Despite the considerable impact that involvement in a stillbirth has on obstetricians, existing research shows that few if any at all receive adequate training in how to care for parents in the aftermath of a stillbirth, or training in self-care skills.

**Summary of Work:** Ireland's national theatre, the Abbey Theatre and, the Royal College of Physicians of Ireland collaborated to develop an innovative educational intervention for trainees in Obstetrics. It was designed using blended narratives from parents and obstetricians who had experienced a stillbirth and utilised applied drama techniques. The aim of this study was to evaluate this new workshop.

**Summary of Results:** Of those who attended 38/59 (66%) trainees completed the workshop evaluation questionnaires. Most had received no prior training in the management of stillbirth. Following the workshop, trainees reported a statistically significant improvement in key skills and attributes with respect to stillbirth management; 1)breaking bad news, 2)communicating clearly with the family when breaking bad news, 3)communicating empathetically with the family when breaking bad news, 4)recognising the emotional needs of the family, 5)recognising their own emotional responses and 6)supporting their colleagues. Trainees were very positive about the course content with all bar one trainee advising that they would recommend this course to a colleague.

**Discussion and Conclusions:** This study evaluated the impact that attendance at a novel educational workshop had on improving obstetricians' awareness of compassion, communication and self-care around the time of stillbirth. The workshop was positively received. We identified a subjective improvement in some of the key skills that obstetricians must have when caring and communicating with parents who are bereaved. We also identified a subjective improvement in how trainees recognise their own emotional responses and support their colleagues in the aftermath of a perinatal death.

**Take-home Messages:** There is a need for structured support and training for obstetricians to access to assist in their management of stillbirth as well as managing their own emotional needs. New novel training programmes, that utilise different teaching methods may have a role to play in medical education in the future.

## #7K Short Communications - Continuing Professional Development 2

**7K6** (3184)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.14, Level 0

### Permanent health education workshops: a learning process with the use of active methodologies

#### AUTHOR(S):

- **Luiza Forte, Faculdades Pequeno Príncipe, Brazil (Presenter)**
- Margareth Grassani, Faculdades Pequeno Príncipe, Brazil
- Patricia Rauli, Faculdades Pequeno Príncipe, Brazil
- Fernanda Biernatski, Faculdades Pequeno Príncipe, Brazil

#### ABSTRACT

**Background:** The complexity of health work requires workers to constantly improve their work practices. Continuing education brings in its scope the need for the development of workers as well as the expansion of the resolution of health problems of the population. Thus, teaching-learning processes need to be aligned with the reality of work, proposing problematization, dialogue and bringing brazilian public policies closer to the singularities of people, communities and workers. This work was carried out with 553 workers: physicians, dentists, nurses, pharmacists, community health agents, psychologists, physical educators and social workers in a municipality in the State of Paraná, in the form of workshops using active teaching-learning.

**Summary of Work:** Method: Eight workshops were held. The topics covered the national policy of humanization: principles, methods, guidelines and devices (expanded clinical and unique therapeutic design); teamwork, communication processes and the use of active methodologies. The active methodologies used were oral dialogue and problem-solving with the support of group dynamics, case studies, construction of territorial maps and production diagrams and knowledge organization.

**Summary of Results:** The oral dialogue allowed the perception that, although the theoretical references are online on the website of the Ministry of Health, workers do not appropriate the availability of the contents. The problematization with the support of the group dynamics indicated situations of leadership, motivation, inclusion or exclusion of participants as well as problems of solvency and theoretical fragility to base the work. The case studies with questions provided the exercise of the expanded clinic and the experience of this work tool. The construction of territorial maps indicated the need to better define the territories to know them properly as the diagrams showed the work cut that is done by the teams for ease and choice of tools that dominate.

**Discussion and Conclusions:** The workshops provided the stimulation of the cognitive structure of the participants, the theoretical visualization and practical experience of the use of active teaching-learning methodologies as important resources for improvement, extension and evaluation of health work performance.



## #7K Short Communications - Continuing Professional Development 2

7K7 (478)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 0.14, Level 0

### Stackable learning modules for flexibility and responsiveness in Continuing Professional Development (CPD)

#### AUTHOR(S):

- Catherine Regan, University of Newcastle, Australia (Presenter)
- Brian Jolly, University of Newcastle, Australia
- Miriam Grotowski, University of Newcastle, Australia
- Kerry Peek, University of Newcastle, Australia
- Jennifer May, University of Newcastle, Australia
- Dimity Pond, University of Newcastle, Australia

#### ABSTRACT

**Background:** CPD, to improve skills in teaching and supervision, exists to support those working in hospital and university settings, but often does not translate optimally to the general practice context, in either content or delivery. Many general practitioner (GP) supervisors report feeling under-prepared for the perceived increasing demands in this area. They are also often spread over wide geographic areas with limited opportunities and support for appropriate CPD, particularly at the undergraduate teaching level.

**Summary of Work:** Learning needs, proposed topics and appropriate delivery methods were explored based on a survey and interviews of GPs plus expert educator discussion. Existing courses were reviewed but none fulfilled the specific flexibility requirements. Modules were developed and piloted both on-line and face-to-face and modified according to feedback.

**Summary of Results:** Topics emerged from the results of the surveys, interviews and educator review. Nine stackable modules, in a range of formats, have been developed so far with positive feedback from the piloting process. Modules were divided into two parts for ease of accessibility.

**Discussion and Conclusions:** Modules and part-modules may be undertaken individually as CPD topics but a total of five, with assessment tasks, are required to complete certificate requirements. In the absence of compulsion there is a challenge with engaging GPs in such CPD activities in medical education and yet they are very involved in teaching. There are challenges for GPs in terms of time and cost. Sustainability for courses is also difficult in the absence of ongoing funding certainty and infrastructure. To meet these challenges, the decision was taken to focus on flexibility in topic and delivery options. This stackable certificate fills a gap between ad hoc CPD and costly graduate certificates.

**Take-home Messages:** With appropriate CPD in clinical teaching and supervision, there is scope to enhance the quality of learning in a clinical setting such as general practice with its broad educational potential and distinct challenges.

## #7L Short Communications - Longitudinal Integrated Clerkships

### 7L1 (2133)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room L7, Level 1

**Fake it till you make it? How does an innovative Longitudinal Integrated Clerkship affect student perceptions of the 'educational authenticity' of their experience?**

#### AUTHOR(S):

- **Andy McKeown, Imperial College London, UK (Presenter)**
- Sonia Kumar, Imperial College London, UK
- Martyn Kingsbury, Imperial College London, UK

#### ABSTRACT

**Background:** In 2016, Imperial College launched an innovative Longitudinal Integrated Clerkship (LIC), which placed 24 year 5 students in GP practices for one day/week for the entire year. Students accrued a patient caseload, whom they cared for and followed into secondary care where appropriate. There is a growing evidence base for such LICs worldwide, but very little research within the UK, where authenticity in medical education has been decreasing over many decades.

**Summary of Work:** A qualitative research method was used, with a phenomenological approach. Semi-structured interviews were conducted with 6 of the 24 students, aiming to broadly define the concept of authentic learning and explore students' perceptions of the development of professional relationships within the LIC. Thematic analysis was undertaken using open and axial coding. The Cognitive Apprenticeship model by Collins et al (1989) was used as a framework to interpret the data.

**Summary of Results:** Four main themes relating to educational authenticity were identified: 'Authenticity Through Relationships', 'Time as a Vessel for Authenticity', 'Reality of Apprenticeship' and 'Value of Apprenticeship'. This presentation will concentrate on the value of creating a liminal space for creation of student paraprofessional relationships. Students perceived themselves as bridges between the patient and their care and between primary and secondary care. Such relationships between tutor, student and patient reinforced authenticity and can lead to a transformative learning process.

**Discussion and Conclusions:** The nuances of the UK healthcare system and the innovative design of the hybrid LIC model appeared to allow time for students to experience beyond the usual situated learning available in most 'block' rotations. The liminal space created within this paraprofessional context allowed students to negotiate roles with authentic power and agency. Students can develop meaningful roles within authentic settings if they are afforded time and continuity with peers, patients and tutors.

**Take-home Messages:** Undergraduate learning should include long-term, negotiated paraprofessional relationships, where students are afforded the opportunity to do more than passively observe within a situated context. Such opportunities lead to the creation of transformative learning environments with authentic student agency.

## #7L Short Communications - Longitudinal Integrated Clerkships

### 7L2 (415)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room L7, Level 1

### Can Longitudinal Integrated Clerkships help protect against a decline in professional attributes in medical students? Evidence from a longitudinal cohort study

#### AUTHOR(S):

- Ravi Parekh, Imperial College London, UK (Presenter)
- Andrew McKeown, Imperial College, UK
- Judith Ruzangi, Imperial College, UK
- Arabella Simpkin, Imperial College, UK
- Gareth Tudor-Williams, Imperial College, UK
- Sonia Kumar, Imperial College, UK

#### ABSTRACT

**Background:** There is evidence of a decline in professional attributes in medical students and a lack of students' preparedness for practice. The model of Longitudinal Integrated Clerkships (LICs) promotes the development of attributes such as patient-centredness and resilience in medical students. Since 2016, Imperial College has run a novel LIC in 5th year of the MBBS, entitled the 'Integrated Clinical Apprenticeship' (ICA), to better prepare our students for their transition to practice. ICA students develop an authentic and meaningful role with their patients and reflect on professional attributes e.g. managing risk and uncertainty. We therefore researched: 1. Is there a change in professional attributes in our medical students? 2. Does an LIC model impact these attributes?

**Summary of Work:** In 2016 and 2017, 5th year MBBS students were invited to complete validated inventories at the beginning and end of the years, looking at the following: tolerance of uncertainty, risk-taking, patient-centredness, empathy, resilience and work-based empowerment. Paired data from students on the ICA and not doing the ICA (control) were analysed using paired student T-tests.

**Summary of Results:** ICA students had an improved tolerance of uncertainty (p0.05), with no change in the control group (p0.13). Control students become more risk-averse (p0.02), less resilient (p0.002), and less empowered on clinical placements (p0.0002) with no significant change in the ICA group in any of these attributes. There were no significant changes seen in either group regarding patient-centredness or empathy.

**Discussion and Conclusions:** This longitudinal study in a UK medical school adds to the evidence base showing a decline in professional attributes of medical students, with students becoming more risk-averse, less resilient and less empowered. Results suggest that LICs may be a model that protects this decline, however further research is needed to evaluate this.

**Take-home Messages:** This study adds to the international evidence, supporting the notion that medical students' professional attributes are eroded during their clinical placements. As UK medical students enter a challenging, fragmented healthcare system with an increasingly complex and multi-morbid workload, LICs could be an important educational intervention that protects medical students against this phenomenon and better prepares them for clinical practice.

## #7L Short Communications - Longitudinal Integrated Clerkships

### 7L3 (2612)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room L7, Level 1

### The Dundee Longitudinal Integrated Clerkship - a phenomenological exploration of the experiences of patients

#### AUTHOR(S):

- Zoe McElhinney, University of Dundee, UK (Presenter)
- Maggie Bartlett, University of Dundee, UK

#### ABSTRACT

**Background:** The Dundee Longitudinal Integrated Clerkship (LIC), in which medical students spend their fourth year attached to a GP practice, is the first of its kind in the UK, although it is a model of medical education employed by a number of medical schools worldwide. Longitudinal clerkships aim to increase continuity of care and patient centeredness by allowing students to consult with patients in general practice and to follow them into secondary care as they receive further investigations or treatment. The LIC is currently a pilot in its third year. Initial research has found that students value the immersive experience offered by the LIC. This study will explore the patient experience of the LIC. There is limited literature exploring the patient experience of longitudinal clerkships.

**Summary of Work:** The study is a qualitative exploration of the patient experience of the Dundee Longitudinal Integrated Clerkship. It will explore three main areas: 1. the impact of involvement of LIC students on patient care; 2. the impact of the involvement of the LIC student on patients' understanding of their illness or disease and its management; 3. the effects of patients' relationships with LIC students on their experience of healthcare. The evidence gained from the study will contribute to the development of the LIC in future years, enhancing the experience for future students and patients.

**Summary of Results:** Results are not yet available. Patient interviews will be carried out towards the end of the current academic year (May/June 2019), with results available for presentation at AMEE 2019.

**Discussion and Conclusions:** Discussion of the patient experience of seeing medical students involved in the longitudinal clerkship, in particular with regard to the impact the students involvement had on patients care, understanding of their illness and experience of healthcare.

**Take-home Messages:** Patient centredness, continuity of care and longitudinality are central features of the longitudinal clerkship model of undergraduate medical education. There is limited literature exploring the patient experience of involvement in the clerkship model of undergraduate education. This study will increase our understanding of patients experiences of the longitudinal clerkship including impact on their experience of healthcare.

## #7L Short Communications - Longitudinal Integrated Clerkships

### 7L4 (1877)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room L7, Level 1

### Comparing the personalities of medical students in rural and urban education programs highlights differences in perfectionism: Implications for nurturing competence and confidence in medical students

#### AUTHOR(S):

- **Di Eley, The University of Queensland, Australia (Presenter)**
- David V. Power, Department of Family Medicine and Community Health, University of Minnesota Medical School, USA
- Kathleen Dwyer Brooks, Department of Family Medicine and Community Health, University of Minnesota Medical School, USA

#### ABSTRACT

**Background:** Rural longitudinal integrated clerkship (LIC) programs have contributed to our understanding of selecting and training students for rural practice. Studies have explored personality profiles of students who participate in rural LICs although few have compared them with classmates who have not. This study compared personality and psychological characteristics of four consecutive cohorts of students in the LIC Rural Physician Associate Program (RPAP) with their non-RPAP classmates.

**Summary of Work:** In a longitudinal cross-sectional comparative design (2013/2014 through 2016/2017), RPAP and non-RPAP medical students completed identical questionnaires measuring temperament and character traits, Perfectionism-CoM: (concern over mistakes) and Tolerance of Ambiguity (ToA). T-tests, ANOVA and post-hoc tests compared groups.

**Summary of Results:** Gender and age were not different between groups (RPAP=128, non-RPAP=158). More RPAP reported a rural background and strong interest in rural practice. RPAP were significantly lower in levels of Perfectionism-CoM (driven by goals and achievement versus fear of failure), and higher in Cooperativeness (tolerant, empathic) compared to non-RPAP classmates. ToA levels were moderately high and not different between the groups. Significant ( $p < 0.001$ ) correlations ( $> 0.3$ ) were negative between Perfectionism-CoM and Cooperativeness and ToA, but positive with Harm Avoidance (anxiety proneness).

**Discussion and Conclusions:** The influence of personality is context dependent. Lower Perfectionism-CoM and higher Cooperativeness in RPAP students point to advantages in coping with particular aspects of rural practice. Higher Perfectionism-CoM and its association with anxiety can provide insight into behaviours such as coping with challenging environments and gaining confidence in ambiguous situations. Nonetheless, all students appear to be managing ambiguity, which is encouraging given its ubiquitous role in medical practice.

**Take-home Messages:** Physicians are constantly required to act decisively - even at the risk of making a mistake. Putting our findings into the context of a rural LIC suggests that students who are highly perfectionistic and overly concerned with mistakes may feel uncomfortable in, or even avoid situations with limited resources and consultation. Curricular modifications that support students in tasks outside their comfort-zone may be helpful for those particularly high in perfectionism. A goal as educators is to nurture competence and confidence in all students whatever the environment.



## #7L Short Communications - Longitudinal Integrated Clerkships

7L5 (1158)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room L7, Level 1

### Participation, interpersonal relationship and interaction among medical students in longitudinal integrated clerkship and rotation-based clerkship

#### AUTHOR(S):

- Yaw-Wen Chang, Tri-Service General Hospital, National Defense Medical Center, Taiwan (Presenter)
- Shih-Chung Huang, Kaohsiung Armed Forces General Hospital, Taiwan
- Wen-Hui Fang, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Pauling Chu, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Senyong Kao, Graduate Institute of Life Science, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** Longitudinal integrated clerkships (LIC) is an innovative educational model and its curriculum design is different from traditional rotation-based clerkships (RBC). The purpose of this study was to explore the impact of curriculum design on students' participation in clinical activities and interaction with medical team members.

**Summary of Work:** The survey was conducted in April 2018, the second to last month of M5 clerkship. All students finished their first-year internal medicine (IM) rotation. In academic year 2017/18, there were 15 LIC students and 97 RBC students. All LIC students were enrolled, and 29 RBC students were enrolled by using convenience sampling. The data were collected using an anonymous questionnaire. In the first part, the students were asked to list a typical daily schedule (from 7:00 am to 5:00 pm) of IM rotation. In the second part, the students would draw an ecomap of clinical team members. The reference was a patient who was illustrated by a circle (1cm in diameter) located in the center of the map. The size of the circle meant the importance of this member. The distance between circles showed the relationship between members. The number of connecting lines between circles demonstrated the interaction between members.

**Summary of Results:** LIC students spent more time on direct patient care and participating in outpatient clinic/operation room. For the importance of clinical team members, there was no difference in the circle size of attending, resident, intern among LIC and RBC students. But the circle of nurse was larger in RBC students. For the interpersonal relationship, LIC students were closer to attending but more distant to intern. For the interaction between team members, LIC students had more frequent interaction with patient and attending.

**Discussion and Conclusions:** In this study, there are significant differences in the clinical participation and interpersonal relationship and interaction among LIC and RBC students during IM rotation. The curriculum design had an effect on students' participation and interpersonal interaction.

**Take-home Messages:** The LIC students had more opportunity to care patients directly and more frequent interaction with patients and attendings.

## #7L Short Communications - Longitudinal Integrated Clerkships

### 7L6 (2073)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room L7, Level 1

### The Undergraduate Clinical Skills Progress Test: First Outcomes of Longitudinal Student Skill Assessment

#### AUTHOR(S):

- Klara Fluher, Faculty of Medicine, University of Maribor, Slovenia (Presenter)
- Luka Oblak, Faculty of Medicine, University of Maribor, Slovenia
- Monika Sobočan, UMC Maribor, Clinic for Gynecology and Perinatology, Maribor, Slovenia
- Breda Pečovnik Balon, Faculty of Medicine, University of Maribor, Slovenia
- Radovan Hojs, UMC Maribor, Clinic for Internal Medicine, Faculty of Medicine, University of Maribor, Slovenia
- Sebastjan Bevc, UMC Maribor, Clinic for Internal Medicine, Faculty of Medicine, University of Maribor, Slovenia

#### ABSTRACT

**Background:** Testing student progress through longitudinal examination serves as a formative assessment tool to understand current curriculum outcomes and improve student evaluation. Next to assessing theoretical knowledge it is becoming more important to assess clinical skills knowledge. Objective structured clinical examination (OSCE) is a method to assess the level of clinical skills knowledge. The purpose of this study was to evaluate in a low-stakes formative assessment the clinical skills level improvement of finishing medical students prior to and after their 9 week Internal medicine clerkship.

**Summary of Work:** Medical students (n = 34) voluntarily participated in this study during their mandatory Internal medicine clerkship. Each student was assessed in three different clinical skills before and after the clerkship. OSCE was used to grade students in history taking, venipuncture and rectal examination. Our study analyzed the correlations of students' knowledge in clinical skills before and after the clerkship. Data was analyzed using the SPSS program.

**Summary of Results:** Our study shows a significant improvement in history taking score ( $p=0.001$ ) and in total OSCE score ( $p=0.006$ ) on the second testing. A significant reduction in time needed to complete the task was observed in rectal examination ( $p=0.003$ ) and history taking ( $p=0.013$ ) compared to the first testing. There was no significant difference between the score on the first and the second testing in rectal examination ( $p=0.924$ ) and venipuncture ( $p=0.096$ ).

**Discussion and Conclusions:** This data is first data of ongoing implementation of a clinical progress test in our intermediate and final medical students. Our study indicates that students improve in history taking as a consequence of performing this skill most often during clerkship. Thus, also improving time management on history taking. We hypothesize that other skills were not practiced by students as often, therefore there was no observed improvement.

**Take-home Messages:** The results of the study show, there was a progress in history taking after completing the Internal medicine clinical clerkship. No progress was observed in performing the rectal examination and venipuncture. In order to improve these clinical skills, training activities should be considered.

## #7L Short Communications - Longitudinal Integrated Clerkships

### 7L7 (1171)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room L7, Level 1

### What do medical students learn in Shadowing Modeled Inter-Professional Education (SMIPE)? A preliminary report of SMIPE Project

#### AUTHOR(S):

- Shu-Liu Guo, Taipei Medical University Hospital, Taiwan (Presenter)
- Chien-Chih Wu, School of Medicine, College of Medicine, Taipei Medical University, Taiwan
- Yu-No Kang, Department of Education, Taipei Medical University Hospital, Taiwan
- Shu-Tai Shen Hsiao, Nursing Department, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Currently, schools implemented a nurse-shadowing program, in which participants observe professionals at work, to help medical students learn more about the role of nurse in health care. Few studies used shadowing-based curriculum to build up IPE attitude in medical students. The purpose of this study described the shadowing modeled inter-professional education in medical students in Taiwan.

**Summary of Work:** We developed the SMIPE project for five-year medical students in Taipei Medical University in 2018. The 8-week project involved nurses, pharmacists, physical therapists, respiratory therapists, dietitians, case managers of discharge preparing, members of hospice term and social workers. Participants (N=55) were grouped (3 to 4 students/group) and separately participated 3-hours shadowing with one healthcare professional every week. Each section consisted of 4 phases including the explanation of learning purpose, the observation toward preceptors, the discussion at the end of each section, and the reflective assignments. They finished a satisfaction questionnaire (range 1 to 5) after this project. To understanding the learning of SMIPE, content analysis was performed for categorical of reflective assignments.

**Summary of Results:** Students reported a high satisfaction in SMIPE (M=4.7, SD=0.2). Three highest satisfactions were shadowing with pharmacists (M=4.92, SD=0.02), respiratory therapists (M=4.88, SD=0.01), and nurses (M=4.81, SD=0.02). In their reflections, the majority (82%) reported that learning inter-professional collaboration was necessary between physicians and other healthcare providers in clinical. They must respect more other healthcare providers, especially nurses, case managers of discharge preparing, and term members of hospice care. They learned great communication skills from nurses and social workers. 30% of students reported that they learned more about hospice care on hospice care section since they didn't take those before in school. They noted that they got a lot of interesting knowledge and understanding of job's roles on respiratory therapists (25%), pharmacists (20%), and dietitians (20%).

**Discussion and Conclusions:** The results suggested that SMIPE might have the effectiveness on IPE attitude in medical students. They learned the roles of other healthcare professionals on inter-professional collaboration and then to redraw their professional position in clinical practice.

**Take-home Messages:** We plan to exam the effectiveness of this project to determine whether it influences medical students' behavior on inter-professional collaboration.

## #7M Short Communications - Student as Teacher

### 7M1 (2753)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.94-0.95, Level 0

### Experiences from developing a Student-led Medical Education Journal Club

#### AUTHOR(S):

- Keerthi Senthil, University of Cambridge, UK (Presenter)
- Dominic O'Neill, University of Cambridge, UK
- Gloria Lau, University of Cambridge, UK
- Manu Shrivastava, University of Cambridge, UK
- Michelle Arora, University of Cambridge, UK
- Diana Wood, University of Cambridge, UK

#### ABSTRACT

**Background:** Journal clubs are useful for students to remain informed with latest advances in research and develop critical appraisal skills. Many medical schools support students attending journal clubs discussing biomedical research. However, as there are fewer medical education journal clubs, it is challenging for students to develop experience in critically appraising educational literature. In particular, qualitative research is covered less in undergraduate curricula so can feel daunting for students. We developed a student-led medical education journal club to facilitate debate amongst students on current hot topics in a supportive environment whilst cultivating skills needed to develop research projects.

**Summary of Work:** We describe the benefits and challenges of running a student-led medical education journal club and synthesise key learning points which other students can use when starting their own. Our sessions run roughly once per month and are split into two parts: a senior student-led teaching session, occasionally facilitated by an invited senior educationalist, to discuss methodology, ethics and other research skills, followed by a student-led discussion around a medical education research article. We collect evaluation data after each session.

**Summary of Results:** Attending journal clubs aided understanding of basic study designs and qualitative and quantitative concepts. Students found it beneficial to practise critical appraisal techniques. A structured approach to reviewing research articles was particularly valued. The main challenge was selecting a time and location which would increase attendance since most students are allocated to various regional teaching hospitals during the week. Refreshments were also notably appreciated and improved attendance.

**Discussion and Conclusions:** Participating in a journal club provides a community of practice to develop an appreciation of medical education literature from an early stage and may foster more academic interest in medical education research. Maintaining attendance is a major challenge which was overcome by regular meetings and careful planning. Further remedies might involve implementing an online platform for journal discussion.

**Take-home Messages:** A medical education journal club is a worthwhile way for students to pursue an interest in medical education and might encourage participation in medical education research, particularly in qualitative methods. An online journal club might increase participation.

## #7M Short Communications - Student as Teacher

### 7M2 (2208)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.94-0.95, Level 0

### Empowering patients, empowering students: a mixed-methods study on the impact of training medical students in health coaching

#### AUTHOR(S):

- Arti Maini, Imperial College London, UK (Presenter)
- Sonia Kumar, Imperial College London, UK
- Molly Fyfe, Imperial College London, UK

#### ABSTRACT

**Background:** Health-coaching aims to facilitate patients' active participation in managing their health, based on the assumption that people are resourceful with internal strengths and capabilities. Recent work has described involving medical students in authentic, educationally-constructive service roles that add value to health systems. This study explored the impact of training medical students in health-coaching.

**Summary of Work:** We piloted skills-focused health-coaching training for cohorts of Year-3 medical students undertaking 10-week community placements from 2016-18. Training emphasised opportunities for authentic practice and feedback. Students were placed in diverse community settings with opportunities to draw on health-coaching skills when seeing patients. A mixed methods approach explored the impact of training medical students in health-coaching. The Patient Practitioner Orientation Scale (PPOS) was administered pre and post intervention, and six focus groups were conducted to explore students' perceptions and experiences.

**Summary of Results:** Thematic analysis suggests that students experienced changes in their mindset whereby they increasingly recognised others as resourceful and positioned themselves to facilitate conversations rather than 'solve' issues. This related to positive changes in students' attitudes, skills and motivation in using person-centred communication approaches, and on their ability to empower others to develop agency, thus adding value in authentic clinical and non-clinical contexts. Students also described enhancements in their own sense of agency, and described internalising coaching skills for effective self-reflection and solution-finding. Questionnaire findings demonstrated a significant increase in patient-centred attitudes ( $p < 0.000$ ).

**Discussion and Conclusions:** These findings suggest that training medical students in health-coaching enables a mindset-shift which supports development of agency in themselves and others in both clinical and non-clinical contexts. This results in developing skills to hold empowering conversations with patients around health issues and increases students' ability to add value in authentic contexts. Development of agency also impacts positively on students' own personal and professional development. Our medical school now plans to train all entering medical students in health-coaching skills.

**Take-home Messages:** Medical schools should consider training their students in health-coaching skills with a view developing student agency, resulting in positive impact on both clinical and non-clinical encounters and on students' own personal and professional development.



## #7M Short Communications - Student as Teacher

### 7M3 (2511)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.94-0.95, Level 0

### TMET: a peer-led Medical Education workshop

#### AUTHOR(S):

- Silvia Matilda Aștefanei, International Federation of Medical Students' Associations (Presenter)
- Obada Yousef Al-Nahawi, International Federation of Medical Students' Associations
- Muhammad Nouman Shuja, International Federation of Medical Students' Associations

#### ABSTRACT

**Background:** Medical education should be at the core of each medical student's interests, as it defines our practice. The International Federation of Medical Students' Associations (IFMSA) aims to raise awareness about this matter, where its Standing Committee on Medical Education (SCOME) implemented TMET- Training Medical Education Trainers so students can acquire the necessary theoretical knowledge in approaching different issues in this field.

**Summary of Work:** The first TMET took place in 2014. Each workshop has a set of 2-4 facilitators who are responsible for developing its content and have had previous training on the topic. The training takes place in 3-4 days, with a maximum workload of 24 hours in total and with no more than 25 participants attending. Participants explore concepts about Advocacy, Social Accountability, Medical Students Involvement, Assessment & Evaluation, Curriculum Development among others. Participants are required to perform a graduation training no later than 6 months after their forming took place, so they can harness their brand-new skills at their fullest, keeping themselves updated within this area.

**Summary of Results:** Since 2014, more than 45 TMET workshops have taken place, with more than 500 trainers specialized in medical education. Trainers represent all regions of the world, with the majority of them from the Eastern Mediterranean Region and Europe, being followed by Africa, Americas and Asia-Pacific. Tunisia, Sudan, Malta, Brazil, and Taiwan together with Pakistan and India are the countries with the highest number of medical education trainers/region, some of them being also TMET hosts at some point throughout this period of time.

**Discussion and Conclusions:** All the TMET trainers are internationally accredited by IFMSA, meaning they can hold sessions and presentations on medical education topics all around the world, for any medical students' local or national association or medical faculty which requests this type of lecture.

**Take-home Messages:** Engaging students to take part in this type of event not only makes them better future physicians, but it also empowers them to take proper actions in their faculties or countries and to improve the medical systems.

## #7M Short Communications - Student as Teacher

### 7M4 (1007)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.94-0.95, Level 0

### An educational innovation to promote students' skills as teachers and leaders

#### AUTHOR(S):

- **Serena Cottrell, Education, Faculty of Medicine, University of Southampton, UK (Presenter)**
- Karen. E Morrison, Education, Faculty of Medicine, University of Southampton, UK
- Ahmad Elmansouri, University Hospital Southampton, UK
- William Freake, Faculty of Medicine, University of Southampton, UK
- Rhian GL Jeffery, Faculty of Medicine, University of Southampton, UK
- Edward O Murray, Faculty of Medicine, University of Southampton, UK

#### ABSTRACT

**Background:** World Restart a Heart Day (RAHD) teaches Cardiopulmonary Resuscitation (CPR) to the public. Southampton was the first UK medical school to participate in RAHD in 2017. In 2018 nine UK medical schools volunteered to participate. The educational aims of RAHD are to provide students with the opportunity to lead a project, develop their clinical skills and their skills as teachers.

**Summary of Work:** The opening session was a panel discussion for 2nd year medical students, which included personal and professional experiences from the Dean and other members of faculty alongside a cardiac arrest survivor. This session concluded with a demonstration of CPR skills and an outline of the day's learning outcomes. The students then implemented delivery of CPR sessions across the campus with staff and members of the public. Sessions were also delivered to local school children to reach the wider community.

**Summary of Results:** 642 people were trained and the day was widely promoted on social media. Two students champions gave an interview at the local radio station and were filmed teaching the radio presenter CPR, which received 1291 views. Feedback forms on the experience were returned by 80 students. After the session the majority of students reported an increased confidence at performing CPR. They reported an increase in confidence in teaching skills from 56% to 84% and a decrease in anxiety about teaching of 13% (36% to 23%).

**Discussion and Conclusions:** Feedback from the students said they found teaching CPR skills to staff and the public a valuable learning experience. RAHD champion Rhian Jeffery stated 'This worked incredibly well, the students were enthusiastic about teaching and many other university students and staff stopped by to learn these lifesaving skills'. This clearly demonstrates the benefits of experiential learning through an exciting and innovative educational programme. 4 student champions led the organisation of the project.

**Take-home Messages:** World Restart a Heart Day provides a rich opportunity for students, staff and patients to benefit from peer teaching CPR in the community.

## #7M Short Communications - Student as Teacher

### 7M5 (693)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.94-0.95, Level 0

### Doctor as Teacher - Peer markers for teaching, learning and feasibility of essay assessment

#### AUTHOR(S):

- Russell Hearn, King's College London, UK (Presenter)
- Tristan Fraser, Kings College London, UK

#### ABSTRACT

**Background:** We have sought to pilot the potential for students to provide summative quality-assured peer marks as part of a Doctor as Teacher module for medical students. This study looks to consider the quality, reliability, validity and feasibility of peer-provided summative marks for written work. We also consider the learning acquired by markers and their relationship with assessment.

**Summary of Work:** Students were invited to submit 3000-word essays. Essays were anonymously submitted and randomised with each student submitting one essay and then marking four of their peers, providing qualitative and quantitative marks. Peer marks were then assessed for reliability and validity against existing faculty marks. A qualitative thematic analysis of the written feedback was undertaken. After moderation, feedback was sent back to students and a focus group and questionnaires were used to elicit the students insight into what they learnt from marking essays. Ethics approval was granted by KCL.

**Summary of Results:** Twelve students took part. Eight students took part in focus groups and survey response rate was 100%. Using quality assurance processes, four students provide sufficient triangulation to produce a valid and reliable mark with a consistent bias of -2.38% ( $p < 0.01$ ) compared to faculty marks. Peers provide higher-quality and more useful feedback to their peers than faculty. Students in this pilot felt they learned about using mark schemes and how to improve their own writing in future.

**Discussion and Conclusions:** Students appreciated the larger amount of written feedback that peer markers provided. We anticipate being able to provide insight into useful methods of identifying hawk/dove markers, help students gain insight into the assessment process and prepare them to deliver on the GMC duty of doctor as teacher. This pilot supports our intended roll out of peer marking to the cohort of 400 students.

**Take-home Messages:** 1. With appropriate training peer-markers produce valid and reliable marks for essays, with increased quality of qualitative feedback and improved feasibility of marking. 2. Specific mark schemes, example essays and a brief guide on how to assess written work improves quality. 3. Insider exposure of being an assessor improves student satisfaction with regards to assessment overall and helps learning.

## #7M Short Communications - Student as Teacher

### 7M6 (1559)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.94-0.95, Level 0

### Sexual education by medical students

#### AUTHOR(S):

- Clémence Musy, France (Presenter)
- Justine Boulekouane, France
- Caroline Tilikete, France
- Caroline Combes, France

#### ABSTRACT

**Background:** There are serious shortcomings in France concerning sexual education. High schoolers lack knowledge on basic notions such as anatomy, contraception. Moreover, in 2016, according to a study led by INED, 14,5% of women suffered from sexual violence in France. We believe this violence to be partly due to a poor education on respect and consent. The aim was to organize interventions in schools based on peer teaching.

**Summary of Work:** In Lyon Est Medical School, a group of 26 students was constituted by two leading students to receive training on subjects relative to sexuality. Formations were performed by different actors involved in sexual education or in the treatment of sexual violence. To further their knowledge on those subjects and their capacity to discuss with pupils, debates and role games were organized amongst the medical students. The main objective was for medical students to receive this training to intervene in secondary cycle classes. The interventions were separated into two sessions. One to address sexual life: contraception, sexually transmitted diseases, abortion... The second one to develop the students' reflection on respect (homophobia, gender equality) and sexual violence.

**Summary of Results:** 33 schools were contacted for the interventions, 6 responded positively. 25 classes are to receive the interventions in March-April, each class separated in half groups, involving 750 pupils. The medical students will intervene in pairs.

**Discussion and Conclusions:** With medical students motivated, many pupils are reached. We hope interventions open to great discussion within the classes and we believe they will improve knowledge and awareness on sexuality, respect and consent. Peer teaching was suggested to be a great way to achieve such objectives. Future step of this project is to integrate the new 'Health Service' curriculum that had been organized within health schools this year in France. This project aims at developing peer teaching of preventive actions in population, based on multidisciplinary Health students groups.

**Take-home Messages:** Sexual education should be part of medical studies, and be achieved through peer teaching.

## #7N Short Communications - Curriculum: Subjects in the Curriculum

### 7N1 (2095)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 2.15, Level 2

### Involvement of students in academic medicine: using poster presentations as an educational strategy

#### AUTHOR(S):

- Irma Elisa Eraña Rojas, Tecnológico de Monterrey, School of Medicine and Health Sciences, Mexico (Presenter)
- Nancy de los Angeles Segura-Azuara, Tecnológico de Monterrey, School of Medicine and Health Sciences, Mexico
- Mildred Vanessa López Cabrera, Tecnológico de Monterrey, School of Medicine and Health Sciences, Mexico
- José Eduardo Pérez Saucedo, Tecnológico de Monterrey, School of Medicine and Health Sciences, Mexico

#### ABSTRACT

**Background:** There is an intense debate about the skills that Universities need to develop in undergraduate medical students. It involves constant competition in an already busy curriculum. Practitioners involved in academic medicine, understand the practical aspects and skills needed to work in research. Students could achieve early development of those skills by doing case reports, short communication presentations, and participation in research seminars. The objective of this study was to assess the effectiveness of the educational strategy of poster presentations in developing research skills in students.

**Summary of Work:** This research study used a quantitative approach with a descriptive, cross-sectional and quasi-experimental design. The sample consisted of 118 medical students from a private university in Latin America enrolled in the Pathology courses. Students were required to work in teams of 5 members, mentored by a faculty member. The teams prepared a poster presentation of a gynecologic pathology case report. The judges that assessed the posters were Oncopathologist or Gynecologic Oncologist, randomly assigned.

**Summary of Results:** 23 posters were produced, which participated in the Oncology Conference of Medical Students. The results indicate that students exceeded expectations on the use of language, as it was both formal and technical. The written structure was clear and easy to read. Results show an excellent performance in the identification of relevant bibliographic support and references, while the clinical case summary presented a lower performance. The judges found that it was coherent and kept a chronological order; however, it did not include all the relevant laboratory test and analysis, and it did not describe the diagnosis fully.

**Discussion and Conclusions:** This educational strategy has proven valuable to promote interest in academic careers in students. An outcome of this implementation was that a national pathology conference accepted the students' best-evaluated poster for presentation. This experience allowed participants to become aware of the importance of adopting a systematic approach and methodologies to document, analyze and share knowledge.

**Take-home Messages:** Future research should deepen in the study of the involvement of students in research courses, conferences, and publications during training starting from the undergraduate program until they become involved in professional practice.



## #7N Short Communications - Curriculum: Subjects in the Curriculum

### 7N2 (2161)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 2.15, Level 2

### Digital medicine is here - let's talk about it

#### AUTHOR(S):

- Jan P. Ehlers, Didactics and Educational Research in Healthcare - Witten/Herdecke University, Germany (Presenter)
- Philip Boehme, Bayer AG, Germany
- Maximilian Herrmann, Bayer AG, Germany
- Thomas Mondritzki, Bayer AG, Germany
- Hubert Truebel, Bayer AG, Germany

#### ABSTRACT

**Background:** Digital transformation is about to change medicine: e.g. ehealth, telemedicine, robotics, artificial intelligence, precision medicine. In medical curricula, digitization in the first place is addressed as learning method but not as learning outcome. This study should prove how a multiprofessional course could raise awareness about the medical, technical, ethical and economic implications of digital transformation in healthcare.

**Summary of Work:** Since winter 2016/17 the course 'digital medicine' is offered to students of all three faculties (health, economics, culture). Discussions with experts of all fields of digital transformations were performed in presence and live streamed via Adobe Connect. Afterwards an online evaluation with Likert scales (1-5 low to high) and the possibility of free comments was offered.

**Summary of Results:** During the terms the participation of students raised from 17 (winter16/17) to 364 (winter 18/19). Each term up to 21 experts presented and discussed new findings of digital medicine. 115 students answered the evaluation. Format (4.5 + 0.6), technique (4.6 + 0.7) and topics (4.3 + 0.9) were highly accepted. Students of all departments took part: medicine (52%), dentistry (22.7%), psychology (10.6%), economy (9.3%), culture (2.7%) and nursery (2.7%). The students named as advantages the topics, didactical concept, interdisciplinary cooperation, technical possibilities and the site visits. The students also named possible improvements like solving audio problems, fostering critical discussions and better structure.

**Discussion and Conclusions:** If digital transformation might take place or if these changes are good or bad are obsolete. It is important to teach digital literacy to students to help them getting capable of acting. In our course, we have met with great demand from students for a critical discourse on ethical issues of digitization and social responsibility. Many experts were willing to support this format and to share their experiences in a very practical way and to put them up for discussion. In excursions, it was also possible to experience digital solutions first hand and to try them out.

**Take-home Messages:** In order to be able to act in a digital world, it is important to practice this multi-professionally while studying. Therefore, all stakeholders in the health system should learn together.

## #7N Short Communications - Curriculum: Subjects in the Curriculum

7N3 (2774)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 2.15, Level 2

### Real Life, Real Drama: Learning behavioural sciences in the clinical environment

#### AUTHOR(S):

- Tanya Kane, College of Medicine, Qatar University, Qatar (Presenter)
- Suhad Daher-Nashif, College of Medicine, Qatar University, Qatar
- Ayad Al-Moslih, College of Medicine, Qatar University, Qatar
- Susannah Hart, College of Medicine, Qatar University, Qatar
- Alison Carr, College of Medicine, Qatar University, Qatar

#### ABSTRACT

**Background:** There is no gold standard for teaching Behavioural Sciences to medical students. With few models to replicate, the College of Medicine at Qatar University is designing and implementing a longitudinal programme introducing the theories of Behavioural Science in the pre-clerkship phase and embedding it in patient encounters in the Clerkships.

**Summary of Work:** Entering the clerkship phase, we are converting students' theoretical knowledge into practice as they encounter real cases in the hospital setting. Central to this approach is positioning the patient as educator. Weekly experiential review sessions deconstruct student's observations, struggles and fears gleaned from their clinical exposures. This provides opportunities for knowledge acquisition and critical reflection of ethical and professional issues.

**Summary of Results:** Embarking on hospital placements contrasts the relatively safe and ideal confines of the medical school. Preliminary observations suggest this longitudinal approach supports students in developing professionalism as it allows them to reinforce expected behaviours. This approach may counter the hidden curriculum that could potentially undermine the skills and values inculcated in the pre-clerkship phase.

**Discussion and Conclusions:** The inclusion of Behavioral Sciences in the clerkship phase of medical education is unprecedented in the Arabian Gulf Setting. Authentic interactions with a myriad of people in the hospital setting can be harnessed to provide rich learning opportunities. It is within the clinical setting and under the guidance of clinicians that the medical students hone their skills and cultivate their professional identities. This is also where differing knowledge paradigms and practices are mediated. Embedded within the hospital setting, behavioral science curricula can play a vital role in fostering professional growth and challenging unprofessional behaviours.

**Take-home Messages:** The unique constellation of academic, cultural, professional and ethical practices witnessed in the hospital setting generates rich learning material. Clinical exposure to Behavioural Sciences provides students multidimensional platforms upon which to observe, engage and reflect on patient interactions, cultivate professionalism and apply knowledge in meaningful ways.

## #7N Short Communications - Curriculum: Subjects in the Curriculum

7N4 (3353)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 2.15, Level 2

### The use of educational interventions in preparing medical students for interactions with the pharmaceutical industry: a systematic review

#### AUTHOR(S):

- Eugene Ace McDermott, King's College London, UK (Presenter)
- Mariam Koronfel, King's College London, UK
- Afra Jiwa, King's College London, UK
- Edward Fenby, King's College London, UK

#### ABSTRACT

**Background:** A doctor is often subject to activities of pharmaceutical promotion throughout their medical career, and it is well documented that these interactions begin in medical school. A medical student's inexperience with the pharmaceutical industry may unduly influence the appropriateness of their interactions with industry and future clinical decision-making. Therefore, it is important to provide medical students with educational opportunities to develop conscious and appropriate professional values and behaviours toward industry influence.

**Summary of Work:** A systematic review of peer-reviewed articles indexed in MEDLINE and Embase was undertaken to identify educational interventions targeted at medical students and their interactions with pharmaceutical promotion.

**Summary of Results:** The literature search yielded 232 articles. These were subsequently screened resulting in four articles meeting inclusion criteria. Educational interventions included lectures, workshops, interactive web-based courses and faculty-debates. Three studies evaluated effects of intervention on the students' perceived influence of pharmaceutical marketing on prescribing habits and all studies demonstrated that students were more likely to believe that promotional activities do influence prescribing behaviours. One study that provided a lecture and discussion intervention saw second-year students becoming less accepting of marketing practices, however, the same change was not seen in first-year students. In addition, two studies evaluated the educational value of industry interactions - both studies, showed an increase in the students' perceived educational value.

**Discussion and Conclusions:** The results of these studies show these interventions do make students more aware of the effects of pharmaceutical promotion. However, few high-quality studies on these educational interventions exist in the literature. The long-term effects of these interventions have not been shown. Restrictive policies on industry interaction in medical school have not been shown to influence future behaviours as doctors (Yeh et al., 2015). As such, fostering critical thinking in medical school is vital to promoting the professional values and behaviours that are needed for tomorrow's doctors as stipulated in the GMC's 'Outcomes for Graduates 2018'.

**Take-home Messages:** Tactics of pharmaceutical industry should be highlighted to students during their medical studies to prepare for inevitable interactions with the pharmaceutical industry.

## Short Communications Curriculum - Subjects in the Curriculum

7N5 (2000)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 2.15, Level 2

### Defining learning outcomes for infectious disease control in the medical curriculum in the Netherlands: a modified Delphi study

#### AUTHOR(S):

- Nienke van den Berg, UMC Utrecht, the Netherlands (Presenter)
- Marieke de Hoog, UMC Utrecht, the Netherlands
- Conny Seeleman, UMC Utrecht, the Netherlands
- Marielle Jambroes, UMC Utrecht, the Netherlands

#### ABSTRACT

**Background:** Physicians play an important role in the control of emerging infections and expanding antibiotic resistance. Therefore they should have sufficient knowledge regarding infectious disease control (IDC). It is unknown what is considered as sufficient knowledge; the Dutch National Framework on learning outcomes only offers general terms for this topic. As IDC is an international problem, we performed a literature review and identified sixteen potentially important learning items. The aim of this study was to determine which of these learning items are considered as essential knowledge for junior doctors in the Netherlands. The outcomes may help to develop educational programs.

**Summary of Work:** We performed an online two-round Delphi study involving four expert groups: general practitioners; public health physicians; fifth year medical students who did a clerkship at a public health service; and public health educational coordinators of the Dutch universities. Experts were asked to rate the sixteen selected learning items. A learning item was considered as essential knowledge if at least 80% consensus was reached on a 5-point Likert scale. Respondents were able to explain their score, to alter the exact wording after each learning item and to add learning items. This input was used for qualitative analysis, in addition to the quantitative scores.

**Summary of Results:** 27 experts (77%) completed both rounds of the study. Six learning items were identified as essential knowledge for junior doctors based on the 80% criterion, nine had 30-78% consensus, one was considered as not important. We identified two additional learning items based on analysis of the qualitative data. Important learning items were mainly focused on understanding and applying basic principles on a case, like identifying measures to prevent spread of infections based on transmission route. Detailed knowledge about each communicable disease in itself was qualified as not important.

**Discussion and Conclusions:** This study identified a list of eight learning items on IDC, that can be used in medical curricula in the Netherlands. Further research is needed to evaluate the generalizability of this list for international use.

**Take-home Messages:** The Delphi method appears to be a suitable method to identify relevant learning items for medical curricula.

## #7N Short Communications - Curriculum: Subjects in the Curriculum

### 7N6 (1313)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 2.15, Level 2

### Japanese Public Health Courses in Medical Education

#### AUTHOR(S):

- Yuka Yamazaki, Tokyo Medical University, Japan (Presenter)
- Ayane Kanai, Juntendo University, Japan

#### ABSTRACT

**Background:** In Japan, public health (PH) education differs from that in other countries. It is strongly related to the role of medical doctors (MDs). For example, PH is taught only at the undergraduate level in medical schools in Japan, unlike at the graduate- or postgraduate-level Master's in Public Health in other countries. Also, the national medical licensing examination requires that MDs have a sound knowledge of PH, and the core curriculum in medical education emphasizes the importance of social medicine. However, few reports have described PH education in Japan.

**Summary of Work:** Data collection started in April 2018 and is ongoing. Targets are PH and hygiene departments in all 82 medical schools in Japan. From each medical school's website, department names, research topics, target year of medical students, total length of lectures and practical trainings, number of credits, lecture content, and number of full/part-time faculty, MDs, and females being examined.

**Summary of Results:** At the present, 61 schools' data were collected: 36 national/public and 25 private schools, 23 schools had PH and hygiene combined departments. The main themes of departments were community health and life style diseases. The average number of full time faculties was  $4.0 \pm 0.7$ . At least one MD worked in one department. The target years of medical students were 3 year and 4 year. The mean length of PH related class was  $3,811 \pm 1,485$  (min). Private schools gave significantly more PH classes than national/public schools ( $p < .05$ ). Although basically course content followed a core curriculum, several departments addressed regional PH issues such as suicide, epidemiological issues after earthquake disasters, and local cancer registration.

**Discussion and Conclusions:** Japanese PH courses focus on diverse contents of PH instead of focusing on specialties such as epidemiology and health policy. In preparation for globalization in Japan, future PH education should address cultural competency. For future studies, investing on the most beneficial PH content will greatly contribute advancement of the medical profession.

**Take-home Messages:** Japanese MD learn basic PH to focus on patients background and their home and work environment. As a next step, investing to what extent PH knowledge actually play a role in clinical settings is needed.



## #70 Short Communications - Clinical Reasoning

701 (3126)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 2.31, Level 2

### Development of an 8-step, instructional approach for bedside teaching courses to facilitate clinical reasoning in medical students

#### AUTHOR(S):

- Antje Degel, Charité Universitätsmedizin Berlin, Germany (Presenter)
- Dorothea Penders, Charité Universitätsmedizin Berlin, Germany
- Till Rech, Charité Universitätsmedizin Berlin, Germany
- Ulrike Sonntag, Charité Universitätsmedizin Berlin, Germany
- Christian Gröschke, Charité Universitätsmedizin Berlin, Germany
- Harm Peters, Charité Universitätsmedizin Berlin, Germany

#### ABSTRACT

**Background:** Bedside Teaching (BST) has been the cornerstone of medical education ever since Hippocrates putting the patient and not the disease in the center of attention. Unfortunately, with the rise of technological progress, BST has been increasingly neglected. Many clinical teachers rely heavily on technical innovations and thus themselves 'unlearn' working with the patient. BST has become a cumbersome, albeit necessary burden, that every department, even every teacher interprets differently, and leaves students frustrated and wanting of the clinical expertise they need later on.

**Summary of Work:** At the Charité Berlin, evaluation of BST courses was obtained. Workshops with clinical teachers and students with the aim of identifying problems with current BST as well as needs and wishes for the future were conducted. Literature review into problem-based, task-based, self-directed learning, critical thinking was conducted. Based on this, a task-force comprised of clinicians, students and educators developed a new concept.

**Summary of Results:** The new concept represents a 8-step-approach beginning with the patient's chief complaint, history and examination. These are synthesized into a cardinal presentation and translated into medical terminology. Thereafter, students are to develop a table considering the diseases connected to the cardinal presentation and identify clues from history and examination to deduct the most probable and most lethal differential diagnoses. Looking into further diagnostics, a working diagnosis is developed. Based on this, the students present the patient case to a clinical teacher and identify their own learning needs for further self-directed learning.

**Discussion and Conclusions:** The new concept provides a common clinical reasoning structure for BST course in general, while it still allows a tailoring to the context of various medical disciplines. Its implementation is closely monitored and evaluated to make this approach as feasible as possible for the individual clinical departments.

**Take-home Messages:** A common core, with discipline-specific adaptation, 8-step, instructional approach was developed for bedside teaching courses that facilitate clinical reasoning in medical students.

## #70 Short Communications - Clinical Reasoning

702 (526)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 2.31, Level 2

**Teaching clinical reasoning: what elements of the institutional context should be included?**

### AUTHOR(S):

- Annie Carrier, Université de Sherbrooke, Canada (Presenter)
- Mélanie Levasseur, Université de Sherbrooke, Canada
- Andrew Freeman, Université Laval, Canada

### ABSTRACT

**Background:** Health professions programs aim to develop their students' clinical reasoning (CR), a core competency. In doing so, teaching activities usually focus on elements pertaining to interventions with patients. However, in clinical practice, CR occurs within an institutional context (legal, regulatory, administrative and organizational elements) that might influence its process. To tailor teaching activities to explicitly address institutional influence, greater understanding about which elements impact health professionals' CR and how this occurs is of the utmost importance. This study thus aimed to identify: 1) what elements of the institutional context impact health professionals' CR and 2) how these elements impact CR.

**Summary of Work:** A scoping study was used to search nine databases from various fields (health, administration, law and politics) with 51 predetermined keywords. Data were exhaustively charted, analyzed (descriptive statistics and qualitative themes), organized and synthesized by two research assistants following PRISMA-guidelines. Knowledge users were also consulted throughout the process.

**Summary of Results:** Of the 100 selected articles, the majority reported findings of qualitative studies (73.0%), conducted in the United States (26.0%), and focused on organizational (88.0%) or administrative (60.0%) elements. Organizational elements mainly concerned team composition and functioning modes (55.7%) and waiting lists or delays (51.1%). Administrative elements related to policies and processes (43.3%), professional and techno-scientific norms (36.7%) and human and financial resources (28.3%). Most studies (82.0%) concluded that the precise influence of investigated elements was unclear. However, in those cases in which greater clarity emerged, the impact on CR was generally negative, i.e. generating obstacles to problem-solving and restricting decision-making.

**Discussion and Conclusions:** The present study offers a better understanding of the impact of the institutional context, mainly administrative and organizational elements, on clinicians' CR. As such, results inform educators on which elements should be included in their teaching activities aiming at developing students' CR. Results also identify areas where insufficient evidence exists about the institutional context and future interdisciplinary research is necessary.

**Take-home Messages:** In clinical practice, CR is influenced by the institutional context in which it occurs. Teaching activities aiming to develop students' CR should explicitly address these elements and their influence.

## #70 Short Communications - Clinical Reasoning

703 (1976)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 2.31, Level 2

### Journey from novice to expert: Comparing clinical reasoning skills of third year and final year medical students

#### AUTHOR(S):

- Tanzeela Khalid, The University of Faisalabad, Pakistan (Presenter)
- Claudio Violato, University of Minnesota Medical School, USA
- Mussarat Ul Hasnain, Rashid Latif Medical College, Pakistan
- Sumera Badar, Faisalabad Medical University, Pakistan

#### ABSTRACT

**Background:** Clinical reasoning is considered an essential competency for any medical graduate. Early clinical exposure has been advocated to promote development of this skill in medical students. Clinical reasoning abilities of students are expected to improve progressively as they move from third year to fourth year and then final year of their medical education. However this progress is not routinely assessed quantitatively.

**Summary of Work:** University Medical College, Faisalabad is a private sector Medical college in Pakistan, having five years MBBS program with a discipline based curriculum. The clinical reasoning skills of 64 third year and 98 final (fifth) year medical students were measured using Bordage, Grant and Marsden diagnostic thinking inventory. The overall reliability was  $\hat{\pm}$  coefficient 0.84. There were group differences validity indices obtained ( $F(8, 261) = 9.80, P < 0.0001$ ). The mean scores for two main constructs in the inventory i.e. flexibility in thinking and evidence for structure in memory were compared between two groups using t test.

**Summary of Results:** The mean score of 3rd year was 78.5 for flexibility in thinking and 78.4 for evidence for structure of memory. For final year students the mean scores were 80.7 and 81.1 respectively. There was no statistically significant difference ( $p > .05$ ) in the scores between third year and final year students. The scores for third year were comparable, however to those available for their peers in other studies done with the inventory i.e. 81.6 and 76.7.

**Discussion and Conclusions:** Despite two years of supervised clinical training in a tertiary care teaching hospital, the lack of a significant difference in the clinical reasoning abilities of students is surprising. Further studies need to be done with the students and faculty members to explore the reasons behind this phenomenon. The potential use of diagnostic thinking inventory as a quantitative measure of clinical reasoning skills also needs to be investigated further for evidence of validity.

**Take-home Messages:** Clinical exposure does not guarantee development of clinical reasoning skills in undergraduate medical students. Explicit measures are required for the development and assessment of this essential skill.

## #70 Short Communications - Clinical Reasoning

704 (312)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 2.31, Level 2

### A randomized controlled trial of students' individual and collaborative clinical reasoning: Effects on diagnostic accuracy, time-on-task and knowledge

#### AUTHOR(S):

- Helene Werl, Institute for Medical Education, LMU University Hospital, LMU Munich, Germany (Presenter)
- Katharina Niederstigt, Institute for Medical Education, LMU University Hospital, LMU Munich, Germany
- Michael Sailer, University of Munich, LMU Munich, Germany
- Frank Fischer, University of Munich, LMU Munich, Germany
- Martin R. Fischer, Institute for Medical Education, University Hospital of LMU Munich, Germany
- Jan Kieseewetter, Insitute for Medical Education, University Hospital of LMU Munich, Germany

#### ABSTRACT

**Background:** Clinical reasoning is a key skill of the medical profession. Therefore, it is necessary to teach and practice these skills during medical education. Findings suggest that simulations with virtual patients advance development of clinical reasoning skills, i.e. strategic knowledge. Diagnostic accuracy, seems to be superior in dyads, compared to individual diagnosis. Learning in collaborative settings has the advantages of being externally more valid and to implicitly train collaborative knowledge. In our study, we investigated whether collaborative clinical reasoning leads to superior outcomes compared to individual clinical reasoning. We assessed the outcomes based on students' diagnostic accuracy, time-on-task and increase in strategic knowledge.

**Summary of Work:** Participants consisted of 3rd to 6th year medical students (N=71, M=24 years, SD=2.5, 60% female). Their prior knowledge was assessed with ten key-feature problems before working on 6 virtual patients either individually (N=21) or in dyads (N=50 students, N=25 dyads). To initiate the clinical reasoning process, participants selected three differential diagnoses before choosing their next diagnostic step. After their final diagnosis they received an experts solution as feedback. Finally, ten key-feature problems were assessed, as indicators for learnt strategic knowledge.

**Summary of Results:** Collaborative groups (M=4.37, SD=1.41 correct diagnosis) had higher diagnostic accuracy than individuals (M=3.24 SD=1.51 correct diagnosis,  $F(1,45)=6.81$ ,  $p<.01$ ,  $\eta^2=.14$ ). Both groups gained strategic knowledge ( $F(2,69)=14.35$ ,  $p=.01$ ,  $\eta^2=.17$ ), and no difference between the groups was found in the strategic knowledge post-test. Alike, no difference for time-on-task was found ( $F(1,69)=.704$ ,  $p=.40$ , n.s.).

**Discussion and Conclusions:** The current study replicated the effect, that collaboratively working students are more likely to find the correct diagnosis. Moreover, we found that, dyads and individuals required the same amount of time to gain strategic knowledge. To implicitly learn collaboration while learning content had been suggested earlier and this study did not find disadvantages of learning in dyads.

**Take-home Messages:** In order to find how to best foster collaborative clinical reasoning in medical students and physicians, we need to create more evidence regarding feedback, structure and complexity of cases.

## #70 Short Communications - Clinical Reasoning

705 (1464)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 2.31, Level 2

### Effect of a knowledge-oriented intervention on physicians' diagnostic accuracy and susceptibility to bias: A randomized controlled experiment

#### AUTHOR(S):

- **Silvia Mamede, Institute of Medical Education Research, Erasmus University Rotterdam, the Netherlands (Presenter)**
- Marco Antonio de Carvalho Filho, Faculty of Medicine, UNICAMP, Brazil
- Rosa Malena Delbone de Faria, Faculty of Medicine, Federal University of Minas Gerais, Brazil
- Lígia Cayres Ribeiro, UNIFENAS Medical School, Brazil
- Julia Biegelmeyer, Faculty of Medicine, University of São Paulo, Brazil
- Henk G. Schmidt, Institute of Medical Education Research, ErasmusMC, Erasmus University Rotterdam, Netherlands

#### ABSTRACT

**Background:** Biases in physicians' reasoning have been frequently implicated in diagnostic errors. Interventions to immunise trainees and physicians against bias have focused on improving reasoning process and largely failed. We investigated the effect of a knowledge-oriented immunisation intervention on physicians' diagnostic accuracy and susceptibility to bias.

**Summary of Work:** A multicenter randomised three-phase experiment (immunisation, biasing-phase, test-phase) with internal medicine residents was conducted in 7 teaching hospitals in Brazil. Immunisation: physicians worked with one of two sets of diseases (either associated with chronic diarrhea or with jaundice) by applying a procedure that involved comparing/contrasting alternative diagnoses and feedback. Biasing-phase (one-week later): Physicians evaluated cases of either inflammatory bowel disease (IBD) or viral hepatitis, thereby being biasing towards one of them. Test: All physicians diagnosed the same vignettes, half of them resembling IBD, half resembling hepatitis (all with different diagnoses). Test-vignettes preceded by a similar-looking disease in the biasing-phase would be bias-prone (vignettes preceded by the alternate disease, not-bias-prone); physicians who worked with the same disease in the immunisation would be immunised (physicians who worked with the alternate disease, non-immunised). We computed diagnostic accuracy and frequency with which the diagnosis of the biasing-phase was incorrectly given to the similar-looking diseases in the test on bias-prone and not-bias-prone vignettes diagnosed by immunised and non-immunised physicians.

**Summary of Results:** Ninety-one residents participated. Diagnostic accuracy differed on bias-prone vignettes, with immunised physicians performing better than non-immunised physicians ( $p=.004$ ), but not on not-bias-prone vignettes ( $p=.45$ ). Bias only affected non-immunised physicians, who performed worse on bias-prone than on not-bias-prone vignettes ( $p=.005$ ); immunised physicians' accuracy did not differ ( $p=.56$ ). Vignettes diagnosed after exposure to a similar-looking disease were more frequently confused with this disease by non-immunised than by immunised physicians ( $p=.02$ ).

**Discussion and Conclusions:** An intervention directed to refine knowledge of findings that discriminate between look-alike diseases decreased residents' susceptibility to bias, reducing diagnostic errors. Further research should investigate the value of the intervention for experienced physicians.

**Take-home Messages:** Teachers concerned with making their trainees less susceptible to bias in diagnostic reasoning should focus on interventions aimed at developing disease knowledge rather than improving reasoning process.



## #70 Short Communications - Clinical Reasoning

706 (2887)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 2.31, Level 2

### Assessing clinical reasoning in a serious game: Comparison of two different scoring approaches

#### AUTHOR(S):

- **Angéline Middeke, University Medical Centre Goettingen, Goettingen, Germany (Presenter)**
- Insa Frisch, University Medical Centre Goettingen, Goettingen, Germany
- Nikolai Schuelper, University Medical Centre Goettingen, Goettingen, Germany
- Sven Anders, University Medical Centre Hamburg-Eppendorf, Hamburg, Germany
- Tobias Raupach, University Medical Centre Goettingen, Goettingen, Germany

#### ABSTRACT

**Background:** An analysis of student activity during a Serious Game (SG) by means of logfiles recently showed that SG can be used to train and assess student performance related to clinical reasoning (CR) (1). While logfiles reflect every action during a game session, handoff protocols written by students (2) give a focused report on a case they were exposed to during the SG. This study assessed the convergent validity of these two approaches to measure CR.

**Summary of Work:** In summer 2017, fourth-year medical students participated in six 90-minute sessions of playing a SG simulating an A&E department. Student performance on a virtual patient presenting with stable pulmonary embolism was assessed from logfile and handoff scores (0-4 points each). Internal consistency of the two approaches was calculated as Cronbach's alpha, and both scores were compared using Spearmans Rho.

**Summary of Results:** Data from 133 students were analysed (response rate 68.2%). Cronbach's alpha of logfile and handoff scores was 0.330 and 0.465, respectively. Mean scores were 2.67 +/- 0.09 and 2.50 +/- 0.10, respectively. The two measures were closely correlated (Rho = 0.755; p<0.001).

**Discussion and Conclusions:** The low internal consistency is probably due to only one virtual patient case being included. The high correlation explaining 57% of the variance coupled with the higher alpha value found for handoff scores suggests that the latter might be more suitable to grade student performance. The comparison of logfile and written handoff protocol analyses suggests that students are capable of summarising the key points of a case history, thus obviating the need to assess in-game activity in greater detail in order to grade CR competence.

**Take-home Messages:** Serious game logfiles and written handoff protocols can both be used to grade student performance regarding clinical reasoning.

References: 1. Middeke et al. PLOS ONE. 2018; 13: e0203851.

2. Starmer et al. Pediatrics 2012;129: 201-4.

## #70 Short Communications - Clinical Reasoning

707 (1444)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 2.31, Level 2

### Students' clinical reasoning focused on client behaviour change assessed with the web-based Reasoning 4 Change instrument

#### AUTHOR(S):

- Maria Elvén, Mälardalen University, School of Health, Care and Social Welfare, Sweden (Presenter)
- Jacek Hochwälder, School of Health, Care and Social Welfare, Mälardalen University, Sweden
- Elizabeth Dean, Department of Physical Therapy, Faculty of Medicine, University of British Columbia, Canada
- Anne Söderlund, School of Health, Care and Social Welfare, Mälardalen University, Sweden

#### ABSTRACT

**Background:** With the recognition of the impact of lifestyle-related behaviours on health and illness there is a need to advance the clinical reasoning of health professionals in general and physiotherapy students in specific. Enabling such advancements requires robust assessments and knowledge regarding factors associated with physiotherapy students' clinical reasoning outcomes. The aim of this project was to develop a web-based clinical reasoning instrument to assess physiotherapy students' clinical reasoning and investigate individual- and curriculum level predictors of their clinical reasoning outcomes.

**Summary of Work:** A new clinical reasoning instrument was developed based on theory, evidence and expert opinions. Reliability and validity of the instrument were evaluated including physiotherapy students and physiotherapists. 151 physiotherapy students in their final semester at the eight entry-level programmes in Sweden responded the instrument and data were analysed with multiple regression analysis.

**Summary of Results:** The web-based instrument, named Reasoning 4 Change (R4C), comprise four domains related to 1) physiotherapists' capabilities, skills, attitudes and beliefs, 2) history-taking and examination, 3) analysis, and 4) treatment strategies to support behaviour change. The instrument is built up of several case scenarios and incorporates a holistic, client-centred and behavioural focused clinical reasoning process. The instrument demonstrated satisfactory reliability and validity. Cognitions, attitudes and curricula content were significantly associated with students' clinical reasoning outcomes in the end of their education.

**Discussion and Conclusions:** The R4C instrument fills a gap in education and can support investigations and evaluations of physiotherapy students' clinical reasoning focused on clients' behaviour change. To develop students' clinical reasoning competence, cognitive, metacognitive capabilities and skills, positive attitudes, and behavioural medicine content in curricula need to be targeted.

**Take-home Messages:** The web-based R4C instrument is ready to be used in physiotherapy education evaluation. With some modifications the instrument may be used in other health professional educations as well. To improve physiotherapy students' clinical reasoning for the benefit of clients' health-related behaviour change, education interventions should focus on developing students' analytical and reflective capabilities and skills. Also, a learning environment that support positive attitudes towards the integration of biopsychosocial and behavioural considerations in clinical reasoning should be encouraged.

## #7P Short Communications - Surgery 2

### 7P1 (2748)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room L1, Level 1

### Educational online videos for students from different disciplines: The impact on learning and attitude toward inter-professional cooperation

#### AUTHOR(S):

- Johannes Grosser, Leibnitz Institut für Wissensmedien (IWM), Germany (Presenter)
- Martina Bientzle, Leibnitz Institut für Wissensmedien (IWM), Germany
- Thomas Shiozawa-Bayer, Institute for Clinical Anatomy and Cell Analysis, University Tuebingen, Germany
- Bernhard Hirt, Institute for Clinical Anatomy and Cell Analysis, University Tuebingen, Germany
- Joachim Kimmerle, Leibnitz Institut für Wissensmedien (IWM), Germany

#### ABSTRACT

**Background:** Students from different health-related courses of study use medical educational resources on the Internet, such as educational videos, to learn about certain study-related content. Often they use material that is explicitly designed for medical students and it is an open research question to what extent students with different professional backgrounds can make use of medical educational videos.

**Summary of Work:** Method: In a quasi-experimental study 75 medical students and 38 physiotherapy students watched the same educational online video that dealt with the surgical treatment of shoulder trauma and the physiotherapeutic follow-up treatment of this operation. The content was presented by an anatomist, a surgeon, and a physiotherapist. Before as well as after watching the video the participants conducted a knowledge test regarding basic medical knowledge (10 items), physiotherapeutic knowledge (10 items), and clinical knowledge (5 items). We also measured their attitude toward inter-professional cooperation with the interprofessional learning subscale of the University of the West England Interprofessional Questionnaire (UWE-IP).

**Summary of Results:** We found that both medical and physiotherapy students learned from watching the video. They had more overall knowledge after the video ( $M = 14.92$ ,  $SD = 3.52$ ) than before ( $M = 11.01$ ,  $SD = 3.87$ ;  $P < .001$ ). It is particularly revealing, however, that medical and physiotherapy students could benefit in different ways concerning the different types of knowledge. The medical students gained more physiotherapeutic knowledge ( $M = 1.59$ ,  $SD = 1.93$ ) than the physiotherapy students ( $M = 0.87$ ,  $SD = 1.74$ ;  $P = .046$ ), while the physiotherapy students gained more medical knowledge ( $M = 3.05$ ,  $SD = 2.39$ ) than the medical students ( $M = 0.61$ ,  $SD = 1.40$ ;  $P < .001$ ). There were no differences in knowledge gain regarding clinical knowledge ( $P = .914$ ). Moreover, watching the educational video improved the attitude toward inter-professional cooperation (pre:  $M = 3.68$ ,  $SD = 0.63$ ; post:  $M = 3.84$ ,  $SD = 0.77$ ;  $P < .001$ ) for both medical and physiotherapy students.

**Discussion and Conclusions:** The results of this study indicate that educational videos that present content from various health-care professions are suitable for conveying knowledge to students from different disciplines in different ways. Educational videos that explicitly demonstrate inter-professional work in a medical setting are also a promising approach for supporting awareness of the relevance of inter-professional cooperation in medicine.

**Take-home Messages:** Learners from different medical professions profit differently from videos that explicitly demonstrate interprofessional work in medical settings.

## #7P Short Communications - Surgery 2

7P2 (1858)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room L1, Level 1

### How should we teach Human Factors and Non-Technical Skills in Post-Graduate Surgical Training? A Qualitative Interview Study

#### AUTHOR(S):

- Gillian Hardman, University of Manchester, UK (Presenter)
- Leena Patel, University of Manchester, UK
- Mumtaz Patel, Health Education England, UK

#### ABSTRACT

**Background:** Two decades of patient safety research have identified the importance of Non-technical skills (NTS) in maintaining patient safety and optimum operative performance in surgery. Despite this, the provision of training in NTS has not yet been widely implemented. This study sought to determine the best way to teach NTS in post-graduate surgical training.

**Summary of Work:** Qualitative semi-structured interviews were used to derive expert opinion. Thirty potential participants with relevant qualifications and experience were identified. Interviews were carried out face-to-face or by telephone, by mutual agreement of the investigator and participant. Data analysis was performed using the framework and thematic analysis technique drawn from Grounded Theory, and member checking was performed.

**Summary of Results:** Interviews were arranged with 17 participants and 15 interviews were conducted, at which point data saturation was deemed to have been reached. Four major themes were identified; lack of faculty is a barrier to NTS teaching, a variety of teaching methods are used to provide training, timing and frequency of interventions, and putting NTS in the curriculum; compulsory and assessed.

**Discussion and Conclusions:** This study identified barriers to widespread delivery and implementation of NTS education in surgery. Other themes provided evidence to suggest that a variety of teaching methods should be employed, commenced early in training, and delivered frequently. A model of 3-yearly formal training is proposed. NTS must be embedded in the surgical curriculum, with formative and summative assessment of knowledge and skills, as a mandatory requirement of progression through a competency-based training system.

**Take-home Messages:** 1. Barriers to implementation of NTS training programmes have been identified and further work is required in each of these areas to improve implementation. 2. A model for delivery of NTS training is described. Further work is required to implement and evaluate this model.

## #7P Short Communications - Surgery 2

7P3 (497)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room L1, Level 1

### Reliable assessment of simulation-based surgical technical skills training is highly dependent on context: an exploration of different training variables using generalizability theory

#### AUTHOR(S):

- Steven Arild Wuyts Andersen, Copenhagen Academy for Medical Education and Simulation, Denmark (Presenter)
- Yoon Soo Park, University of Illinois - College of Medicine, USA
- Lars Konge, Copenhagen Academy for Medical Education and Simulation, Denmark
- Mads Sølvsten Sørensen, Rigshospitalet, Denmark

#### ABSTRACT

**Background:** Reliability of simulation-based assessment of technical surgical skills is often expressed as the number of observations needed to achieve a G-coefficient  $>0.8$ . Such analysis is typically based on single-study data - i.e. a specific training context - but then assumed a general trait of the particular assessment tool. The effects of different training variables such as training organization, simulation fidelity, learner level, could influence assessment reliability due to varying score distributions, yet remains little explored.

**Summary of Work:** We pooled 3,574 assessments of simulation mastoidectomy performances from several studies conducted in 2012-2018. This included data on 287 participants (medical students, otorhinolaryngology residents, experienced surgeons) and ratings by four raters using a modified Welling Scale for mastoidectomy performance assessment. G- and D-studies were used to explore the effects on reliability of: organization of practice (massed vs. distributed); learner level (medical students, residents, and experts); modality (cadaver dissection vs. virtual reality (VR) simulation); VR graphic realism; VR simulator-integrated tutoring; and point of assessment on the learning curve.

**Summary of Results:** Training organization and tutoring in VR simulation did not affect reliability. However, different aspects of fidelity did: only 2 observations of cadaver dissection were needed for reliable assessment in contrast to 5 observations of VR simulation performance. Increased graphic realism of the simulator resulted in fewer observations needed (7 vs. 4 observations). For more advanced learners more observations were needed for reliable assessment (5 for medical students, 7 for residents, and 8 for experts). Finally, more observations were needed in the steep initial part of the learning curve compared with the later plateau phase (6 vs. 4 observations).

**Discussion and Conclusions:** The reliability of simulation-based assessment of surgical technical skills is dependent on a number of training variables including fidelity and graphic realism, learner level, and slope of the learning curve. In contrast, organization of training matters little. Training variables should therefore be considered in the context of reliability, which should not be generalized outside the specific study context without thorough investigation.

**Take-home Messages:** Reliability for surgical technical skills assessment cannot be directly extrapolated to other contexts as training variables influence reliability.



## #7P Short Communications - Surgery 2

### 7P4 (1770)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room L1, Level 1

### The effect of ultra high fidelity graphics on surgical simulation training and cognitive load: a prospective interventional trial

#### AUTHOR(S):

- **Andreas Frithioff, Copenhagen Academy for Medical Education and Simulation (CAMES), Rigshospitalet, Copenhagen, Denmark (Presenter)**
- Martin Frendø, Department of Otorhinolaryngology, Head and Neck Surgery, Rigshospitalet, Copenhagen, Denmark
- Steven A. W. Andersen, Copenhagen Academy for Medical Education and Simulation (CAMES), Rigshospitalet, Copenhagen, Denmark
- Mads Sølvsten Sørensen, Department of Otorhinolaryngology, Head and Neck Surgery, Rigshospitalet, Copenhagen, Denmark

#### ABSTRACT

**Background:** Ultra-high-fidelity (UHF) graphics in virtual reality (VR) simulation could improve surgical skills acquisition. However, UHF does not necessarily translate to better learning, as cognitive overload might be induced. This study aimed to compare the effects of UHF with conventional high fidelity (CHF) on novices' cognitive load (CL) and performance during VR surgical simulation.

**Summary of Work:** In a randomized, cross-over design, 24 medical students completed a total of four mastoidectomy procedures on the Visible Ear Simulator: two in UHF graphics simulation and two in CHF simulation or vice versa. Two blinded experts rated performances using an established assessment tool (the 17-item modified Welling Scale). CL was estimated as relative change in secondary-task reaction time during simulation compared with baseline measurements. Data were analyzed using linear mixed models analysis.

**Summary of Results:** CL was significantly higher using UHF graphics compared with CHF (linear mixed models,  $P < 0.001$ ): compared with baseline, CHF simulation increased CL by 14% and UHF simulation increased CL by 26%. Even after crossover, the group starting with UHF simulation had a significantly higher CL in CHF simulation (mean difference = 6%,  $P = 0.001$ ). Furthermore, performances were significantly worse in UHF simulation than CHF (mean difference = 0.95 points,  $P = 0.02$ ). However, the most important factor for novice performance was ability to achieve stereovision during UHF simulation (mean difference = 3.37 points,  $P < 0.001$ ).

**Discussion and Conclusions:** UHF VR simulation induced higher CL and lower performance score compared with CHF simulation training. This suggests UHF led to cognitive overload and had a negative effect on learning. Therefore, UHF VR simulation has limited use in early training of novices in complex surgical skills training such as mastoidectomy.

**Take-home Messages:** UHF graphics in VR simulation training have no or limited benefit in early training of novices but may have a role in training of intermediates or experts. Future development of surgical simulation for novices should aim at improving the learning supports such as tutor-functions and gamification instead of focusing on improving realism through ultra-high visual fidelity.

## #7P Short Communications - Surgery 2

7P5 (1385)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room L1, Level 1

### Development and validation of a simulator-based test in transurethral resection of bladder tumors (TURBEST)

#### AUTHOR(S):

- Sarah Bube, Urology Department, Zealand University Hospital, Roskilde, Denmark (Presenter)
- Rikke Boelling Hansen, Urology Department, Herlev/Gentofte Hospital, Denmark
- Claus Dahl, Urology Department, Zealand University Hospital, Roskilde, Denmark
- Lars Konge, CAMES Copenhagen Academy for Medical Education and Simulation, Denmark
- Nessn Azawi, Urology Department, Zealand University Hospital, Roskilde, Denmark

#### ABSTRACT

**Background:** A thorough transurethral resection of bladder tumors (TURB) is of particular importance in the treatment of bladder tumors. The purpose of our trial was to develop and validate a simulator-based TURB test using Messick's framework of validity.

**Summary of Work:** Forty-nine doctors were recruited. The group consisted of eleven novices (no TURBs), twenty-one intermediates (<75 TURBs) and seventeen experienced (>100 TURBs). In order to develop the test, the simulator was assessed at an expert meeting. After pilot-testing, the final test consisted of three procedures on the TURB Mentor™ VR simulator, Simbionix. Participants completed a standardized warm-up session. Simulator metrics were used as outcome measures to minimize bias. Analysis of variance (ANOVA) was used to identify metrics with ability to discriminate between groups; these were combined in a total simulator score (TSS). Item reliability was analyzed by intra-class correlation, Cronbach's alpha. Relation to number of TURB performed was explored using Generalizability Theory constructing a decision study (D-study) exploring the effect of repeated procedures on test scores. Finally, a pass/fail score was identified using the contrasting groups' method.

**Summary of Results:** Four metrics had significant discriminatory ability: resected pathology (%) ( $p=0.008$ ), cutting in bladder wall ( $p=0.004$ ), time ( $p=0.034$ ), and inspection of bladder wall ( $p=0.002$ ). The internal structure of the TSS [(resected pathology\*inspection of bladder wall)/time] was high, Cronbach's alpha: 0.85. The D-study identified an acceptable generalizability coefficient above 0.80 after three procedures. Relation with other variables was explored for TURB experience and the mean TSS was significantly lower in the novice group (14.9) than in the intermediates (25.6) (mean difference=9.7,  $p=0.011$ ) and experienced group (30.6) (mean difference=14.7,  $p<0.001$ ). A pass/fail score of 22 was identified. No novice doctors passed, four experienced doctors (23%) did not pass the test.

**Discussion and Conclusions:** We have established validity evidence from all five sources in Messick's framework of validity for a newly developed VR simulator-based test including a pass/fail score identifying surgical skills in TURB. The test can be used for accreditation in a mastery learning training program.

**Take-home Messages:** The TURBEST VR simulator-based test in TURB is a reliable and valid assessment tool and can be used for proficiency-based training prior to supervised procedures.

## #7P Short Communications - Surgery 2

### 7P6 (1907)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room L1, Level 1

### The Why and How of Guided-Discovery: Exploring Learning Mechanisms in an open-surgical skills course

#### AUTHOR(S):

- **Andreas Höier Aagesen, Copenhagen Academy for Medical Education and Simulation (CAMES), Denmark (Presenter)**
- Rune Dall Jensen, MidtSim, Denmark
- Jeffrey Cheung, The Wilson Centre, Canada
- Ryan Brydges, The Wilson Centre, Canada
- Kulamakan Kulasegaram, The Wilson Centre, Canada
- Ebbe Thinggaard, Copenhagen Academy for Medical Education and Simulation (CAMES), Denmark

#### ABSTRACT

**Background:** Recent experimental studies suggest that guided-discovery learning (GDL) in surgical simulation can be efficacious. However, the effectiveness of GDL in real-world settings with non-naïve trainees is unknown. In this cohort study we examine the effectiveness of GDL for surgical skill training practicing physicians and investigate how GDL affects the learning processes of trainees participating in a basic open surgical skill course.

**Summary of Work:** The open surgical skill course trains 50 physicians a year. The course consisted of six teaching sessions, one 1 ½ hour session a week for six weeks. Two rotations of eight trainees (n=16) were taught using GDL. At the beginning of each training session participants spent the first 10 minutes exploring the task without instruction. Afterwards the instructor demonstrated how to do the task and then participants would practice with the aid of the instructor. Six rotations of approximately eight trainees (n=51) were taught in the traditional method without time for exploration. Trainees' suturing skills were assessed by the instructor on a summative suturing assessment as well as transfer to live animal model. To examine the participants interaction with tasks, instructors and other students, we used participant-observation throughout the GDL-course using ethnographical principles. We also conducted individual semi-structured interviews for ten out of sixteen participants at different stages of the GDL-course.

**Summary of Results:** The GDL cohort was superior to the traditional cohort on the summative suturing assessment ( $F(1,65)=6.23$ ,  $p<0.015$ ,  $d=0.68$ ) though other metrics of competency were not significant. The preliminary qualitative data shows themes of enhanced preparation for future-learning, as well as the importance of structure and choice of procedural skill in a GDL-style learning environment.

**Discussion and Conclusions:** GDL is a promising approach to surgical education. This study provides preliminary evidence on effectiveness in real-world settings for retention and transfer of skill. We aim to elucidate how this educational strategy works using qualitative data. The results of the study will have implications for the structure and educational strategy used in future surgical skill courses.

**Take-home Messages:** Implementing Guided-Discovery-Learning is an effective educational strategy and emphasizes preparation for future-learning as opposed to immediate performance.

## #7Q Short Communications - Selection Methods

### 7Q1 (1927)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.15, Level 0

### Opening the black box in selection: What are we really measuring?

#### AUTHOR(S):

- **Sanne Schreurs, Maastricht University, the Netherlands (Presenter)**
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#### ABSTRACT

**Background:** Medical school selection assesses a variety of competencies to ensure the recruitment of well-performing students. However, there has been no systematic consideration of which specific constructs are actually assessed in selection. Combined with an abundance of research on predictive value, this has led to the paradoxical situation in which selection tools predict outcomes, but which constructs are doing the predicting is unknown. To enable improvement of the selection process, it is essential to know which constructs are really measured. The aim of this study was to shed light into the 'black box' of selection by gathering evidence for the construct validity of an outcome-based selection procedure.

**Summary of Work:** Downing's validity framework was applied to organize evidence for construct validity. The focus was on evidence related to content and internal structure, as these were most useful in terms of illuminating the 'black box' of the selection procedure at Maastricht University. First, we examined content-related evidence pertaining to the creation and application of the competence-based selection blueprint. Second, we investigated the internal structure of the selection process by connecting applicants' selection performance to the blueprint using Cognitive Diagnostic Modeling (CDM).

**Summary of Results:** Setting up the selection procedure proved to be a multi-step, robust process to determine content, which translated into good face validity and was transparent and replicable. Moreover, CDM showed that there is over 90% overlap between the expected blueprint and the latent variables in the applicants' performance data.

**Discussion and Conclusions:** To the best of our knowledge, this is the first time Downing's validity framework and CDM have been applied to investigate the construct validity of a selection procedure for medical school. We can conclude that the current outcome-based selection procedure indeed measures what was intended to be measured, therewith shedding some light in the black box that is selection.

**Take-home Messages:** Our results support the notion that the focus placed on creating the right content and following the competence-blueprint was effective in terms of internal structure. This information can be used to change selection procedures to make them more fair, predictive and efficient.

## #7Q Short Communications - Selection Methods

7Q2 (2374)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.15, Level 0

### Stories of selection from medical students with progression delay

#### AUTHOR(S):

- Sandra Carr, The University of Western Australia, Australia (Presenter)
- Ben Canny, The University of Tasmania, Australia
- Tony Celenza, The University of Western Australia, Australia
- Basia Diug, Monash University, Australia
- Andy Wearn, University of Auckland, New Zealand
- Tim Wilkinson, University of Otago, New Zealand

#### ABSTRACT

**Background:** There is limited qualitative research focused on understanding medical students' experiences of selection and how those experiences may relate to or influence academic progression. This study forms part of the Narratives of Progression: from medical student to doctor multi-centre research funded by the UMAT Consortium of Australian and New Zealand medical schools.

**Summary of Work:** The purpose of the study was to explore reflections of selection, progression and support from senior medical students who had failed, repeated or taken leave for a year during medical school. Thirty-eight students from five medical schools were purposefully selected and underwent in-depth interviews to record their lived experiences.

**Summary of Results:** "... I was sort of interested in medicine I suppose, quite liked the sciences ... but to be honest, didnt really know what I was getting myself into completely". Descriptive analysis demonstrated a range of demographic characteristics and selection scores for the participants. Thematic analysis of selection experiences illuminated five influencing themes: Motivation for Medicine, Relocation, Past Educational Experiences, Life Experiences, and Personal Health and Well Being.

**Discussion and Conclusions:** Many identified being motivated for higher education, but not specifically motivated for medicine. This was more overt in school leaver participants. For several, the experience of relocation and resultant isolation contributed to their delayed progression, particularly early in the medical course. Others discussed how their past education and past life experiences contributed to their academic difficulty and/or how they responded to it. Some reported physical and mental health concerns as affecting how they sought support or assistance.

**Take-home Messages:** Being selected into medicine, and the required commitment to undertake the course often results in the need for relocation, excessive workloads and different realities compared to expectations. Students are over extending themselves and for some it becomes too difficult to sustain. The findings will inform better ways of supporting applicants and students.



## #7Q Short Communications - Selection Methods

7Q3 (2261)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.15, Level 0

### Keeping the bandwagon on track: Facilitating best practice and collaboration in MMIs as an admissions methodology across UK Medical Schools

#### AUTHOR(S):

- Angela Kubacki, St George's, University of London, UK (Presenter)
- Paul Garrud, University of Nottingham, UK
- Alison Callwood, University of Surrey, UK
- Austen Spruce, University of Birmingham, UK
- Rachel Chall, Medical Schools Council, UK

#### ABSTRACT

**Background:** Medical schools across the UK are increasingly employing multiple mini interviews (MMIs) to assess non-cognitive domains of prospective students. Research suggests considerable variations in MMI models within and between medical schools (Rees et al, 2016). Following recommendations that medical schools should 'work together to develop a bank of items that can be used in MMIs' (MSC, 2014), the MMI Expert Group was established to facilitate convergence on good practice in the design and operation of MMIs and to develop a process to improve and assure the quality of MMIs (and individual stations).

**Summary of Work:** We will present our experience of building consensus for content and construct coverage and the development of well designed stations to be shared across medical schools. This will include best practice in MMI station writing, stakeholder involvement, quality assurance, considering diversity and widening participation during development and piloting and collaborative implementation across institutions. This work is under-pinned by an inclusive approach to the development and trialling of shared stations.

**Summary of Results:** Through a series of residential workshops and station piloting across geographically dispersed UK institutions with candidates from diverse backgrounds, 27 MMI stations were developed. Initial feedback suggests that an inclusive approach to station development improved participants understanding of the principles of MMI station design. Participants strongly agreed that working with a variety of stakeholders to develop MMI stations was helpful.

**Discussion and Conclusions:** The aim of this work was to develop the evidence-base for MMIs through the collaborative development of generic stations informed by current principles of best practice. The authors acknowledge the complexities associated with this aim and the challenges of getting consensus. The stations and assessment criteria are intended to be refined to meet 'local' need assuming that no one station can/should meet all medical schools requirements. Through a facilitative and inclusive process, we developed a bank of quality assured stations that can be used in MMIs across institutions. A longitudinal study examining predictive validity is planned within UKMED.

**Take-home Messages:** We conclude that working towards developing a consensus of what works best in MMIs needs a creative and inclusive approach.

## #7Q Short Communications - Selection Methods

### 7Q4 (1297)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.15, Level 0

### Developing Situational Judgement Tests for Ophthalmology Specialist Training in Australia and New Zealand

#### AUTHOR(S):

- Catherine Green, Royal Australian and New Zealand College of Ophthalmologists, New Zealand (Presenter)
- Rebecca Khan, Monash Institute for Health & Clinical Education, Australia
- Michael Merriman, Royal Australian and New Zealand College of Ophthalmologists, New Zealand
- Justin Mora, Royal Australian and New Zealand College of Ophthalmologists, New Zealand
- Margaret Hay, Monash Institute for Health & Clinical Education, Australia

#### ABSTRACT

**Background:** The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) is the organisation accredited to train ophthalmologists in Australia and New Zealand. Until now, selection has been undertaken by employing hospitals in seven different networks, with variation in selection criteria and processes. From 2019, centralised selection will be undertaken by RANZCO to provide a cohort of applicants deemed eligible for selection, through a matching process. Evidence-based selection processes and tools, including situational judgement tests (SJTs) and multiple mini interviews will be introduced. We report on our pilot to locally develop SJTs for selection for post-graduate ophthalmology specialist training.

**Summary of Work:** The CanMEDS competencies Professional and Collaborator were selected as the focus for item development. Scenarios were created by a group of subject matter experts (SMEs). These were validated by two different groups of SMEs in a two-stage process, following which psychometric validation was undertaken and a scoring matrix developed. After a multi-round deletion-recalculation cycle, final items deemed suitable for piloting were confirmed. All 131 applicants for ophthalmology training in 2018 were required to complete the online, invigilated test.

**Summary of Results:** 182 Collaboration and 45 Professionalism items were initially developed. After 11 rounds of a deletion-recalculation cycle removing low-performing items, 79 Collaborator and 28 Professional items were included in the pilot. Cronbach's alpha was calculated as follows:

Overall SJT: 0.799; Collaborator: 0.783; Professional: 0.467. All items were able to distinguish between high and low performing test takers. The items demonstrated an appropriately wide range of difficulty. Despite the novelty of the SJT for selection into ophthalmology training, the majority of applicants found the test to be enjoyable, relevant, relatable and suitable. There was no difference in performance by gender and no correlation between age and items.

**Discussion and Conclusions:** The pilot confirms feasibility, with high acceptance from applicants, and following its success, with College members. Ongoing development of the tool with the continued development of new items is planned. SJTs will be incorporated into the selection process from 2019.

**Take-home Messages:** The RANZCO SJT is a valid and reliable tool for use in selection. Development of the tool has not only strengthened selection processes.

## #7Q Short Communications - Selection Methods

7Q5 (556)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.15, Level 0

**Does a qualitative selection procedure including non-academic criteria result in a medical student group with higher empathy than a lottery procedure?**

### AUTHOR(S):

- Anouk Wouters, Amsterdam UMC, Location VUmc, VUmc School of Medical Sciences, Research in Education, the Netherlands (Presenter)
- Wendy Homan, Amsterdam UMC, Location VUmc, VUmc School of Medical Sciences, Policy Innovation & Quality, the Netherlands
- Marleen Westerhof, Amsterdam UMC, Location VUmc, VUmc School of Medical Sciences, Policy Innovation & Quality, the Netherlands
- Rashmi Kusurkar, Amsterdam UMC, Location VUmc, VUmc School of Medical Sciences, Research in Education, the Netherlands

### ABSTRACT

**Background:** Empathy, a desirable attribute in doctors and medical students, is related to patient satisfaction and positive clinical outcomes (Derksen et al., 2013). For years, Dutch admissions into medical study consisted of the simultaneous use of qualitative selection and a lottery weighted based on pre-university grade point averages. Because qualitative selection procedures usually incorporate non-academic criteria related to the interpersonal domain, and a lottery does not, we hypothesized that selected students have more empathy towards patients than lottery-admitted students.

**Summary of Work:** In 2017-2018, students from all six years of medical study at our institute were invited to complete the Jefferson Scale of Physician Empathy-Students (JSPE-S) to measure empathy using a 7-point Likert scale. We used Hojat et al.'s (2002) definition of empathy: "a cognitive attribute that involves an ability to understand the patient's inner experiences and perspective and a capability to communicate this understanding." We compared the total scores on the JSPE-S and the scores on all subscales, i.e. 'Perspective taking', 'Compassionate care' and 'Standing in the patient's shoes' of selected and lottery-admitted students using ANCOVA's. Gender and study phase were included as covariates.

**Summary of Results:** 317 students completed the questionnaire (ca. 15% response): 212 students could be categorized as selected and 85 as lottery-admitted students. Mean scores of the total group were 5.60 (SD = 0.57) for total Empathy, 5.74 (SD = 0.64) for 'Perspective taking', 5.72 (SD = 0.75) for 'Compassionate care', and 4.49 (SD = 1.32) for 'Standing in the patient's shoes'. No significant differences were found between selected and lottery-admitted students.

**Discussion and Conclusions:** The current findings suggest that the use of non-academic selection criteria does not result in the uptake of a group of students with higher empathy compared to a lottery procedure. However, due to a relatively low response rate and a potential response bias we cannot draw strong conclusions. Furthermore, measurements based on actual behaviour, rather than self-reported empathy, may be able to reveal differences between the groups.

**Take-home Messages:** This study suggests that empathy levels are similar in medical students who are admitted through selection or weighted lottery.

## #7Q Short Communications - Selection Methods

### 7Q6 (773)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1145-1200

**Location of Presentation:** Room 0.15, Level 0

### Comparison of the Performance Characteristics of the AAMC Standardized Video Interview (SVI) and the Electronic Standardized Letter of Evaluation (eSLOE) in Emergency Medicine

#### AUTHOR(S):

- **Laura Hopson, University of Michigan, USA (Presenter)**
- Linda Regan, Johns Hopkins University School of Medicine, USA
- Jeremy Branzetti, New York University School of Medicine, USA
- Elizabeth Samuels, Alpert Medical School at Brown University, USA
- Michael Gisondi, Stanford University School of Medicine, USA
- Bobby Naemi, Association of American Medical Colleges, USA

#### ABSTRACT

**Background:** We analyzed the performance characteristics of the Electronic Standardized Letter of Evaluation (eSLOE), a widely used, structured, norm-referenced evaluation of emergency medicine residency applicants in the United States, and the AAMC Standardized Video Interview (SVI), a new tool designed to assess communication skills and professionalism knowledge.

**Summary of Work:** The authors examined correlations and group differences for EM residency applicants in the 2018 Match. The authors matched 3469 applicants with valid SVI scores to 3223 applicants with 7544 unique eSLOEs, resulting in a matched sample of 2884 applicants. IRB approval was obtained.

**Summary of Results:** SVI scores have a normative distribution (range 6-30, mean 19.33, SD = 3.17). eSLOE ratings showed range restriction with preferential use of the higher ratings. SVI and eSLOE global assessment ratings demonstrate small positive correlations approaching  $r = 0.20$ . eSLOE ratings correlate higher with measures of academic ability (USMLE scores and academic honor society membership) than SVI scores. Group differences are minimal for the SVI, with the exception of applicant type, which favors MDs. There are small group differences in eSLOE ratings favoring women over men (Cohen's  $d = -0.20$ ) and white over black applicants (approaching  $d = 0.40$ ).

**Discussion and Conclusions:** The small positive correlation between SVI and eSLOE global ratings, suggests these are complementary although not duplicative instruments to assess residency applicants. Both tools need further examination to understand their predictive ability. The eSLOE is subject to similar sources and degrees of bias as other common assessment tools; group differences are not observed with the SVI. Our study was not designed to identify factors contributing to differences in performance ratings. These findings may affect design and adoption of standardized assessment letters in other specialties in order to emphasize development of a diverse medical workforce. Future research directions include developing strategies to refine the eSLOE to minimize sources of group differences in this heavily weighted assessment of residency applicants.

**Take-home Messages:** A dedicated communication and professionalism assessment has only weak correlation with the standardized letter for residency applicants. Understanding sources of bias and potential interventions are important next steps.



## Short Communications – Postgraduate Education 3

7R1 (1231)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.16, Level 0

### All Aboard for Social Paediatrics (SoPeds) Residency Training Programme

#### AUTHOR(S):

- Chayakamon Niyasom, Department of Paediatrics, Faculty of Medicine, Naresuan University Hospital (NUH), Thailand (Presenter)
- Jiranun Weerakul, Department of Paediatrics, Faculty of Medicine, Naresuan University Hospital (NUH), Thailand

#### ABSTRACT

**Background:** Comprehensive healthcare from birth to adolescent requires thoughtful multidisciplinary work, accounting for the local culture. SoPeds curriculum serves the vulnerable children while promoting their development, the program which is in keeping with Thailand Royal College of Paediatrics Core Competency on Community Child Health. In 2018, Department of Paediatrics, Faculty of Medicine, Naresuan University Hospital (NUH) initiates the challenging and innovative SoPeds programme for paediatric residency training programme. Traditionally, general paediatric training focuses on disease management more than psycho-social supportive. Therefore, this refined programme encompasses the holistic perspective of health and social care. Objective: To allow the very first paediatric resident in training to capture the essence of Community Child Health.

**Summary of Work:** The resident rotated through the one month programme with experiences in managing special needs children, health promotion and injury prevention. Daily visit, accompanied by at least one staff and a departmental secretary, the team worked with private bodies, charity works, governmental establishment at daycare, school, law court and homes of patients.

**Summary of Results:** At each stage, the resident and staff acquire new knowledge, be it home visit, meetings with other agencies or at the final presentation and feedback. For children with chronic illnesses, an evolving health, education and overall care plan is offered. All paediatric subspecialists devoted time to be involved. A limitation of programmed instruction is understanding the inconsistent learning objectives. The feedback from our network, while simultaneously establishing a growing relationship offer options to develop further this program for the next generations of paediatric residency training at NUH.

**Discussion and Conclusions:** SoPeds curriculum offers insight for transition and continuing of care. The opportunity is both rewarding and a learning process while creating network exercise. Starting from the resident level, branching to general paediatricians and subspecialists, as well as children and families all stands to benefit.

**Take-home Messages:** The holistic perspective of health and social care leads to a productive life, with improved self-esteem and contributing positively to society.



## #7R Short Communications - Postgraduate Education 3

7R2 (3029)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.16, Level 0

### Challenging the simulation panacea: Preparing junior doctors for the stress of acute care

#### AUTHOR(S):

- Scott Clarke, Edinburgh Medical School: Medical Education, University of Edinburgh, UK (Presenter)
- Janet Skinner, Edinburgh Medical School: Medical Education, University of Edinburgh, UK
- Catriona Bell, The Royal (Dick) School of Veterinary Studies, University of Edinburgh, UK
- David Hope, Edinburgh Medical School: Medical Education, University of Edinburgh, UK

#### ABSTRACT

**Background:** High quality and timely resuscitation of deteriorating patients saves lives. As the hospital's first responders, the performance of junior doctors is critical but they often report feeling underprepared for this role; narrating feeling overwhelmed, and even paralysed, by the stress of providing acute care. Little research has explored the factors contributing to this stress. This study aims to explore junior doctors' perceptions of stress during the management of acutely unwell patients and the effectiveness of medical school at preparing them for it. Furthering our understanding offers the potential to develop educational interventions and tools to mitigate its effects.

**Summary of Work:** Following institutional approval, semi-structured interviews have been carried out with Foundation Doctors working in South-East Scotland. Interviews have been transcribed and, subsequently, analysed through thematic analysis.

**Summary of Results:** Early analysis points to a challenging transition after graduation. Participants described learning about the management of sick patients through short-lived, simulated scenarios, where support was readily available. On entering clinical practice they faced the stress of having to take responsibility on their own, over longer periods, where investigations and equipment were not immediately available. Uncertainty leading to indecision has been a commonly cited stressor, especially in complex patients with unclear diagnoses or multiple problems. Calling for help appears to be a pivotal moment, with many describing the stress relieving effect of interacting with a supportive senior, who is readily available and assumes responsibility for decision making. Conversely, seniors not being available or unwilling to help was described as further exacerbating stress.

**Discussion and Conclusions:** Simulation is purported to 'bridge-the-gap' between learning and practice, but our work suggests that undergraduate scenarios frequently don't accurately portray real-world stressors. Managing uncertainty and complexity are promising candidates for educational interventions to improve preparedness, and thus reduce stress. Finally, the impact of a supportive and readily available senior should not be underestimated; institutions should continue to focus on this in teaching and escalation policies.

**Take-home Messages:** Our current approach to undergraduate simulation leaves students underprepared for the stress of acute care. Exposure to realistic stressors is required to better prepare them for practice.

## #7R Short Communications - Postgraduate Education 3

### 7R3 (2571)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.16, Level 0

### Developing professionalism amongst medical interns who have taken part in open disclosure after medication error: Feedback that avoids 'Facebook reflection'

#### AUTHOR(S):

- Andrew Lane, Sydney Medical School, Australia (Presenter)
- Christopher Roberts, Sydney Medical School, Australia

#### ABSTRACT

**Background:** Mistakes are common within healthcare. Open disclosure is a policy stating doctors should apologise for errors, discussing them with the harmed parties. Many junior doctors take part in open disclosure without training or experience. However, how do junior doctors make sense of their experience of open disclosure?

**Summary of Work:** A Phenomenological study of ten medical interns involved in open disclosure. Participants were selected using purposive and criterion sampling. Face-to-face semi-structured interviews illuminating their experiences of open disclosure after medication error. The descriptive audio-data was analysed using Interpretative Phenomenological Analysis.

**Summary of Results:** Three super-ordinate themes were identified. The superordinate-theme 'Rationalisation of medical error' described how the interns rationalised error in three different ways. 'Error is in the eye of the beholder' described rationalisation of their observations: interns demonstrated knowledge gaps and poor clinical reasoning when conceptualising their clinical practice. 'Apologetic justification' described rationalisation of their thoughts: interns justified errors using diffusion and distortion of responsibility. 'Softening the blow' described rationalisation of their language: interns utilised euphemistic language and discourse markers.

**Discussion and Conclusions:** The interns appeared to lack important elements in their cognitive frames, demonstrating conscious incompetence associated with rationalisation: they were aware of their mistakes but framed them due to something that was beyond their practice. Their cognitive frames also demonstrated unconscious incompetence, associated with cognitive dissonance. A learning model developed from the data suggested the presence of a prior cognitive frame, which was labelled 'readiness to apologise'. This learning model was linked to the competency framework, along with inherent and future cognitive abilities. 'Readiness to apologise' meant that the interns were; aware of the need to apologise; aware of the rationale to apologise; and aware of the want to apologise. This resonated with the theory of intellectual humility. Inability of reflective competence, ensuring the appropriate development of professionalism, was labelled 'Facebook reflection'.

**Take-home Messages:** Medical educators need to be aware of how learners are situated cognitively before they embark on a period of learning, and ensuring they are in the correct mindset to learn will optimise their progression through the competency matrix.

## #7R Short Communications - Postgraduate Education 3

**7R4** (2904)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.16, Level 0

### Conversations with interns - a safety net for personal and professional support

#### AUTHOR(S):

- Cecilia Moore, Austral University, Argentina (Presenter)
- Soledad Alvarez Campos, Austral University, Argentina
- Carlos Navari, Austral University, Argentina
- Angel Centeno, Austral University, Argentina

#### ABSTRACT

**Background:** The interns complete their practices at different affiliated hospitals, and face diverse social and human situations. We have several assessment and monitoring strategies at each practice site, but insufficient opportunities for interns to talk and reflect with their peers and tutors about their professional and human experiences.

**Summary of Work:** Periodic and voluntary reflection meetings were incorporated. All interns (52) in groups of five met twice a year with the internship coordinator and two educators. They participated in the two scheduled meetings and then evaluated the experience. The aim of this presentation is to highlight the experiences that the interns considered most relevant during their internship and the contribution of these meetings to handle them.

**Summary of Results:** The emerging themes are grouped into three dimensions: teaching experience, human personal aspects and professionalism. The most relevant teaching experience was to identify their own learning gaps, point out good and bad rotations and teachers, and to discover new areas of professional development. In personal human aspects they highlighted situations that had impacted them emotionally, such as the suicide of a young patient, the suffering and death of patients, not having anyone to talk about these distressing situations. In relation to professionalism, indifference towards relatives of patients, lack of communication skills and respect for the autonomy of patients. They also highlighted positive aspects of the teaching experience and professionalism and identified what kind of doctor they wanted to be. The interns spontaneously enunciated most of these topics. Sharing and reflecting on these experiences with their peers and educators had allowed them to discover that they were not alone facing complex and emotionally powerful professional situations. Talking about these experiences, helped them to reduce the anguish and uncertainty.

**Discussion and Conclusions:** The interns live in their daily practice challenging experiences that they need to share with their peers and faculty. The career has to provide opportunities that allow them to reflect on them in a safe and supportive environment.

**Take-home Messages:** Activities that facilitate the conversations of the interns with their peers and their tutors should be incorporated as a systematic activity in the curriculum.

## #7R Short Communications - Postgraduate Education 3

### 7R5 (377)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.16, Level 0

### Developing a shared purpose for each hospital admission: An essential component of team competence

#### AUTHOR(S):

- Mark Goldszmidt, Schulich School of Medicine & Dentistry, Canada (Presenter)
- Katherina Baranova, Schulich School of Medicine & Dentistry, Canada
- Jacqueline Torti, Schulich School of Medicine & Dentistry, Canada

#### ABSTRACT

**Background:** In addition to addressing acute problems, prior research has shown that attending physicians hold three different perspectives on admission purpose: 1) discharge swiftly; 2) ensure patient safety by monitoring co-morbid chronic active conditions; 3) monitor and identify opportunities for improving overall health. Given the patient care implications and potential collaborative challenges of such varying perspectives, this study explored how perspectives are negotiated and enacted within a clinical teaching team context.

**Summary of Work:** The research took place on two internal medicine teaching units each with three separate teams. Constructivist grounded theory was used to inform data collection and analysis. Fifty-four individuals participated including residents, medical students, and attending physicians. Data was collected through 150 hours of direct observation with field interviews. Management decisions around purpose of admission were observed across 185 patients.

**Summary of Results:** We identified a dominant perspective for each observed attending and senior resident (SR). For attendings, purpose of admission appeared to be taken as a 'matter of fact' and not a 'matter of concern' (Latour 2004). Moreover, we were unable to identify any instances where the team explicitly discussed purpose or why a particular perspective was held. Team member perspective differences became most noticeable at the extremes and when differences existed between the SR and attending. Strategies used by attendings for implicitly signaling their perspective included using authority, shutting down and re-directing discussion. Trainees also participated in maneuvers to perform their perspective ranging from direct advocacy to covert manipulation such as avoidance/forgetting and delaying until attending changeover.

**Discussion and Conclusions:** Achieving a shared admission purpose is hampered by collaborative tension, dysfunctional advocacy, and an overstressed healthcare system. Attendings' holding perspective on admission purpose as a 'matter of fact' may impact both patient care and teaching. Not explicitly addressing purpose may also lead to covert maneuvers by trainees to work through the conflict.

**Take-home Messages:** Attending physicians play a pivotal role in directing patient care, supporting collective competence and shaping trainees' future practices. It is therefore essential they be explicit about admission purpose and create a flexible approach to each patient characterized by shared decision making amongst team members and the patients themselves.

## #7R Short Communications - Postgraduate Education 3

### 7R6 (440)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.16, Level 0

### Disentangling residents' engagement with communities of clinical practice in the workplace

#### AUTHOR(S):

- Francisco M Olmos-Vega, Pontificia Universidad Javeriana, Colombia (Presenter)
- Diana Dolmans, Maastricht University, The Netherlands
- Carlos Guzmán-Quintero, Pontificia Universidad Javeriana, Colombia
- Camila Echeverri-Rodriguez, Pontificia Universidad Javeriana, Colombia
- Pim Teunissen, Maastricht University, The Netherlands
- Renée Stalmeijer, Maastricht University, The Netherlands

#### ABSTRACT

**Background:** The workplace is an unstructured learning environment, which often results in residents missing learning opportunities that are afforded to them in this setting. Other professionals' lack of acceptance of residents as participants within the healthcare team constitutes one reason for this problem. Although some research has explored how residents engage with supervisors, nurses and pharmacists individually, there is little research on how residents enter into and engage with the broader community of clinical practice (CoCP).

**Summary of Work:** Through a constructivist grounded theory approach, we conducted 13 semi-structured interviews using the Pictor technique with residents from different training levels and disciplines during the first weeks of their new rotations at Universidad Javeriana in Bogotá, Colombia. Results were constructed through iterative data collection and analysis, constant comparison methods and theoretical sampling.

**Summary of Results:** Residents were identified to either have a central or a peripheral trajectory in the CoCP. How residents' goals for their rotation aligned with those of the CoCP strongly influence the learning experience. The identification of relevant CoCP members and understanding how these members could assist their successful engagement with the community's practices was vital. Negotiation between the resident and the CoCP member determined ultimate resident participation in the CoCP.

**Discussion and Conclusions:** Balancing resident's agency and the needs of the CoCP strongly influence workplace learning. It needs to be considered that not all residents have the same trajectory during their rotations in post-graduate training. Optimising workplace learning includes being mindful as to how each member of the healthcare team influence residents' engagement on practice, and on understanding the nuances of residents' participatory trajectories while interacting with them.

**Take-home Messages:** Recognising the variety of residents trajectories within a community and aligning workplace affordances related to these trajectories might help optimize workplace learning during post-graduate training. Promoting residents' alignment with the healthcare team might include introducing themselves to all members, promoting open dialogue about their goals and understanding how each member could assist them in their learning agenda. It also includes for residents to be flexible enough to balance their goals against the healthcare team needs.



## #7S Short Communications - Teaching and Learning 2

7S1 (2866)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1015-1030

**Location of Presentation:** Room 0.51, Level 0

### Promoting high-order thinking in medical students using semi-unstructured learning activities

#### AUTHOR(S):

- Lance Miller, American University of The Caribbean School of Medicine, Dutch Antilles (Presenter)
- Mark Quirk, American University of The Caribbean School of Medicine, Dutch Antilles

#### ABSTRACT

**Background:** High-order thinking is an essential skill for the practice of medicine. However, teaching these skills to medical students remains challenging. Medical education is highly structured by nature, with little time dedicated to unstructured learning activities (i.e., discovery learning). Research suggests that unstructured learning is better at promoting higher order thinking in both humans and artificial intelligence. We designed a series of weekly activities that promote higher-order thinking using semi-unstructured learning activities.

**Summary of Work:** A group of 10 students meet weekly (live or online) and participated in 90-minute semi-unstructured learning activities. Each session consisted of four separate primers. Each primer consisted of a brief description of a disease with minimal clues. Each student was allotted 10 minutes to define the problem, develop hypotheses, generate questions, and/or illustrate a pathway and five minutes to confirm their hypothesis, correct assumptions, or discover something about the primer using external resources. Next, students were given 10 minutes to share their ideas and solutions with others in the group. Finally, students were given a 6-question open-ended quiz at the end of each session and one week later.

**Summary of Results:** Student engagement was initially slow and variable but improved over time and correlated with the degree of practice. Percentage pass rates on National Board of Medical Examiners (NBME) subject exams plus Comprehensive Basic Science Exams (CBSE) increased 10% over the previous five-semester running average. Based on strong correlations among NBME exams and USMLE performance at our institution (.64) these findings predict increase Step 1 performance.

**Discussion and Conclusions:** We show that weekly semi-unstructured learning activities are correlated with improvements in higher-order thought processes, e.g., generating a hypothesis, asking relevant questions, and application of knowledge to solve novel problems. Preliminary data suggest that semi-unstructured learning activities promote higher-order thinking and can feasibly be incorporated into the medical school curriculum.

**Take-home Messages:** Allowing for semi-unstructured learning activities and providing the request time to engage in these activities is correlated with improvements in higher-order thinking.

## #7S Short Communications - Teaching and Learning 2

7S2 (1137)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1030-1045

**Location of Presentation:** Room 0.51, Level 0

### Using Activity Theory to Change the Cognition of Nursing Clinical Preceptors on Workplace Bullying

#### AUTHOR(S):

- Chien Chien Tung, Tungs Taichung MetroHarbor Hospital, Taiwan (Presenter)
- Tzu-Sang Chen, Tungs Taichung MetroHarbor Hospital, Taiwan
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#### ABSTRACT

**Background:** In Taiwan, some senior preceptors treat young nursing staff in a language of cynicism or loud insults, which is regarded as a reasonable training--the perception of taking hardship as a supplement. Not only it does cause the young nursing staff's anxiety or stress, but it forms a negative workplace environment. By the report of 2017-2018 on resigning from young nursing staff, 37% of the reasons were down to senior preceptors inappropriate behavior. In order to solve the problem, we arranged an 8 hour-workshop on workplace bullying to change the cognition of senior preceptors and prevent the formation of bullying culture.

**Summary of Work:** This was a single group of pretest and posttest design. 61 senior preceptors were from the acute/critical care units. The goal was acquisition of knowledge and cognition about workplace bullying. An educational workshop-understanding workplace bullying was held on 6th December 2018. Activity theory was applied and the class design was: the body of learning-preceptors, tool-experts' speech, video appreciation, personal reflection and group discussion.

**Summary of Results:** The average age of the senior preceptors was 31 years old and the average working experience in nursing was 8.6 years. Scores for pretest and posttest on cognition were 54.1 and 99.3 respectively. 93% was obtained on the survey of learning satisfaction.

**Discussion and Conclusions:** Chinese culture and ethical thinking might play an important role for shaping bullying culture. Subordinates obey seems an acceptable social norm and particularly in the nursing field, which apprenticeship system runs predominantly. Thus, applying the activity theory was to change cognition to increase friendly interaction between the preceptors and young nursing staff after conducting reflection and situational simulation that could revise the twisted concept and reshape the legitimate behavior. Applying activity theory into multiple learning methods proves improvement on bullying culture and enhances awareness of workplace bullying. In sum, it is superior to traditional narrative teaching courses.

**Take-home Messages:** Effective use of activity theory has positive effects on the changes in the knowledge acquisition and cognition of clinical senior preceptors.

## #7S Short Communications - Teaching and Learning 2

7S3 (2136)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1045-1100

**Location of Presentation:** Room 0.51, Level 0

### Using on-line spaced education to improve learning in the health sciences: A systematic review

#### AUTHOR(S):

- David Hak, AO North America, USA (Presenter)

#### ABSTRACT

**Background:** Spaced education is a novel online educational method has been shown to improve knowledge acquisition, increase learning retention, and improved adherence to clinical practice guidelines. On-line asynchronous spaced education also allows introduction of game mechanics to aid engagement. Learners receive multiple-choice questions and feedback by email, text, or app. The questions are then re-presented in a cycled pattern over 8 to 42 days to reinforce the content.

**Summary of Work:** An electronic literature search of PubMed using the search phrases 'spaced education', 'spaced learning', and 'Qstream' was performed identifying 362 potential English-language articles published between 2001 and January 2018. Abstracts and or full text articles were reviewed to assess whether these articles studied the effect of on-line spaced education in the health sciences.

**Summary of Results:** 47 articles were identified that examined on-line spaced education in the health sciences. All but one study reported a positive impact of spaced learning on knowledge acquisition or retention. 53 % of the studies were randomized trials. 42 studies used a commercially available platform (Qstream, Inc. Burlington, MA) while the others used a self-developed spaced education delivery system. Published studies have included a total of 9800 subjects. The studies involved assessment of residents in training (14 studies), medical students (12), practicing physicians (9), fellows in training (4), and the others a combination of providers including dental students, nurses, and other healthcare workers. An increased number of publications were seen in recent years: 2018 (5 studies), 2017 (6), 2016 (7), 2015 (3), 2013 (3), 2012 (6), 2011 (2), 2010 (4), 2009 (3), 2008 (4), and 2007 (2).

**Discussion and Conclusions:** Discussion: While many of the early publication authors included one of the Qstream founders, an increasing number of publications by independent researchers have validated the beneficial impact of spaced learning. Conclusion: An increasing number of randomized studies are proving the effectiveness and popularity of on-line delivery of spaced education. This method has been shown to be beneficial in studies involving a spectrum of different learners in a variety of specialty areas.

**Take-home Messages:** On-line spaced education is a powerful method to engage learners, increase knowledge acquisition, increase retention, and improve adherence to clinical practice guidelines.

## #7S Short Communications - Teaching and Learning 2

7S4 (370)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1100-1115

**Location of Presentation:** Room 0.51, Level 0

### Do Dental Medical Students Develop Visual Diagnostic Expertise Already During their Studies?

#### AUTHOR(S):

- Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany (Presenter)
- Juliane Richter, Leibniz-Institut für Wissensmedien, Germany
- Thérèse Felicitas Eder, Leibniz-Institut für Wissensmedien, Germany
- Fabian Hüttig, Tübingen University Hospital Center for Dentistry, Oral Medicine, and Maxillofacial Surgery, Germany
- Constanze Keutel, Tübingen University Hospital Center for Dentistry, Oral Medicine, and Maxillofacial Surgery, Germany

#### ABSTRACT

**Background:** In dentistry, X-rays are the most common source of diagnostic information. Hence, radiology training is mandatory for dental students. Expert-novice comparisons reveal pronounced differences between medical students and professionals in how they inspect images and in their ability to detect anomalies, but it is yet unclear whether these differences emerge already during study. Hence, we investigated differences in visual expertise between students from different clinical semesters.

**Summary of Work:** 280 data sets from dental students studying in one of five clinical semesters were analyzed. Students were asked to identify anomalies in 10 X-rays by first inspecting an X-ray and then marking all suspicious areas that would require follow-up diagnostic procedures. We assessed diagnostic performance (i.e., percentage of anomalies correctly identified), the number of fixations on anomalies, and the time it took students to first attend to them (time to first fixation). Additionally, we measured clinical dentistry knowledge with 24 multiple-choice items developed by two professionals.

**Summary of Results:** Whereas students' clinical knowledge improved across semesters ( $p < .001$ ), there was no advancement in their diagnostic performance ( $p = .23$ ). Moreover, on the process level students displayed a similar number of fixations on anomalies across semesters ( $p = .33$ ). The time to first fixating an anomaly tended to differ as a function of semester ( $p = .054$ ), with students in the 7th semester attending to anomalies relatively late and students in later semesters becoming faster.

**Discussion and Conclusions:** While students' clinical knowledge improves with increasing experience, competencies related to diagnosing anomalies do not. On the one hand, these findings are disconcerting when considering that diagnostic performance lingers at approximately 55 percent. On the other hand, we know from expert-novice comparisons that professionals' diagnostic competencies are clearly better than that of students, suggesting later improvements.

**Take-home Messages:** It seems that image interpretation competencies are mostly acquired as a function of repeated confrontation with cases during professionals' everyday work. Because these learning processes at the workplace are more likely to be subject to random influences (e.g., case variability), further research regarding systematic training approaches already during university study is warranted.

## #7S Short Communications - Teaching and Learning 2

7S5 (1193)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1115-1130

**Location of Presentation:** Room 0.51, Level 0

### Active learning in medical education: Case study of a medical faculty in Papua New Guinea

#### AUTHOR(S):

- Jerzy Kuzma, Faculty of Medicine and Health Sciences, Divine Word University, Papua New Guinea (Presenter)
- Iwona Kolodziejczyk, Divine Word University, Papua New Guinea

#### ABSTRACT

**Background:** Although active learning designs are increasingly utilized in medical education, many faculties are facing the situation where most of their current medical educators have been educated in a traditional lecture-based way. The study was conducted in the context of a developing country and in a new, working for three years, medical school. The aim of the study was to evaluate the current understanding and practice of active learning among the faculty members and explore ways forward towards increasing implementation of active learning techniques.

**Summary of Work:** It was a case study employing in-depth interviews and focus group discussions as data collection tools. Purposive selection included 10 of medical educators and 10 learners for in-depth interview, and two focus discussion groups with 6 participants in each group. Thematic content analysis was used for the data analysis.

**Summary of Results:** Face-to-face lecture remains a dominant teaching method. Medical educators viewed their role predominantly as imparting basic concepts and materials to students. Occasionally, some interactive techniques were introduced to lectures including brainstorming, questioning for checking understanding and keeping attention. Additionally, participants affirmed engaging other interactive functions such as conducting exercises, feedback, problem and case-based learning, portfolio, group work, and leading discussions. While most of the educators understood active learning as making students doing, they did not utilize students' reflection. In interactive activities, they focused only on teacher-student interactions underestimating peer-to-peer interactions. Majority of faculty members was aware about the effectiveness of active learning methods and looking forward to learn more interactive techniques applicable during lectures. Generally, students were more enthusiastic and convinced that active learning techniques help them learning.

**Discussion and Conclusions:** Despite being aware of effectiveness of active learning methods and being familiar with a wide array of active approaches, still preferable method of teaching was a lecture with rare application of interactive techniques. Because educators are comfortable with lectures, the first step in our strategies for implementation active learning will involve changing a lecture to become more interactive.

**Take-home Messages:** Awareness of the effective teaching methods among the medical educators are not enough to change old teaching habits. The implementation of active learning requires a well-planned implementation strategy and continuous faculty efforts.



## #7S Short Communications - Teaching and Learning 2

7S6 (381)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1130-1145

**Location of Presentation:** Room 0.51, Level 0

### Cultural Preparedness for Active Learning

#### AUTHOR(S):

- Haruko Akatsu, International University of Health and Welfare School of Medicine, Japan  
(Presenter)

#### ABSTRACT

**Background:** The effectiveness of active learning has been well established; however, related cultural factors have not always been addressed explicitly. Active learning would be difficult without the basic cultural components such as valuing individual opinions and encouraging debate, and viewing student questions not as a loss of teacher authority or power, but rather as an indispensable opportunity for life-long learning. Traditional Japanese culture values obedience and silence in the classroom, and students often do not readily participate in class. Nonetheless, International University of Health and Welfare (IUHW) School of Medicine, which opened in Narita, Japan in 2017, is unlike any other Japanese medical school in that it places active learning at its educational core.

**Summary of Work:** IUHW worked first to establish the right culture for active learning: (1) Creating a first-name based student community to eliminate typical vertical senior-junior relationships and provide an equal platform and community; (2) Introducing students to small group discussion and group work from Day 1 (3) Incorporating Team-based Teaching (TBT), where faculty members meet, discuss, and plan every class curriculum in advance; (4) Implementing daily after-class survey questionnaires; (5) Providing weekly FD (faculty development) to assist faculty members in planning and executing active learning.

**Summary of Results:** The above efforts successfully created an active learning culture at IUHW School of Medicine. Students embraced active learning immediately, despite many of them having only ever experienced traditional lecturing prior to entering this school. On the other hand, faculty members varied in their interest in and willingness to try active learning.

**Discussion and Conclusions:** The effectiveness of active learning has been well established; however, related cultural factors have not always been addressed explicitly. We report five tips from our experience in overcoming the lack of an active learning culture in Japan.

**Take-home Messages:** Successful active learning partly depends on the cultural preparedness of the students and faculty involved. In countries that lack a culture that facilitates active learning, schools can still cultivate such a culture to prepare students to embrace active learning.

## #7T Round Table – Learner in Difficulty

### 7T1 (2556)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L5, Level 1

### “But they seem nice”- Is failure to fail medical students failing them?

#### AUTHOR(S):

- George Greenlees, Royal Wolverhampton NHS Trust, UK (Presenter)

#### ABSTRACT

Failure to fail describes the award of passing grades to students who fail to perform satisfactorily in clinical assessments. The phenomenon has been described in a range of professions including medicine, nursing and social work. Purported motivations for this behaviour include empathy and identification with students as well as anxiety that negative marks reflect poorly on the teacher (1). However, unless medical school entry is capable of identifying people who are perfectly suited to the role then some students must fail at medical school (2).

Local experience has seen both junior doctors and medical students who have progressed through their training despite significant concerns regarding their ability or preparedness for the role. Whilst these cases are rare there are both public safety and student welfare motivations for addressing them. Frequently these are complex cases that incorporate multifaceted elements of physical and mental health. We must be conscious of the extreme distress that can be caused to colleagues by allowing them to progress to such a point where they can no longer cope, particularly if issues have been identified earlier in training. The aim of this Round Table is therefore to generate discussion around the topic of failure to fail and consider how these issues can be addressed.

1. Cleland, J. A., Knight, L. V., Rees, C. E., Tracey, S. and Bond, C. M. (2008). Is it me or is it them? Factors that influence the passing of underperforming students. *Medical Education*, 42: 800-809.
2. Elton C (2018). *Also Human: The Inner Lives of Doctors*, William Heinemann, London. Ch 9.

## #7T Round Table – Learner in Difficulty

### 7T2 (1710)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L5, Level 1

### Remediation of Technical Skills for Surgical Trainees

#### AUTHOR(S):

- Oleg Safir, University of Toronto, Canada (Presenter)
- Justin Chang, University of Toronto, Canada

#### ABSTRACT

Surgical training depends chiefly on knowledge acquisition and skill development across a broad set of competencies. Aptitude for technical skills in surgery is notoriously difficult to evaluate in surgical residency candidates, and the late identification of technical deficiencies in senior trainees presents a significant challenge to both the trainees and the training program. It is therefore imperative to closely monitor technical skills acquisition early in residency.

Surgical competency based training provides a suitable platform for early identification of trainees with deficiencies in their technical skills acquisition, however, the management and remediation of these trainees remains a challenge. We believe remediation must be needs focused, non-punitive, towards the goal of improving trainee performance. Remediation must be informed, and driven by reliable assessment tools. It must be transparent, with due process, given the high stakes competitive environment of surgical training. Finally, remediation must be effective and demonstrably achieve its objective.

We will review our ten-year experience with the early identification of technical deficiencies and remediation of junior orthopaedic surgical residents through our Surgical Bootcamp – an intensive one-month knowledge and skills training program for our incoming trainees.

## #7T Round Table – Learner in Difficulty

### 7T3 (197)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L5, Level 1

### If At First You Don't Succeed: Transforming the Culture of Failure

#### AUTHOR(S):

- **Clasina Leslie Smith, SIU School of Medicine, USA (Presenter)**
- Rachel Lewin, University of California, Los Angeles, USA
- Maria Rudolph, Independent Consultant, USA
- Colin Greengrass, Royal College of Surgeons in Ireland – Medical University of Bahrain, Bahrain
- Kate Schwertman, SIU School of Medicine, USA

#### ABSTRACT

Failure, burnout, resilience, and remediation are ubiquitous but under-explored topics in medicine and medical education today. These topics are perpetuated by a culture of perfection, in which it is unacceptable for learners and instructors to openly discuss their struggles. A culture of perfection is isolating, prevents connection, and limits growth. When failure is expected and struggle supported, challenging experiences are more manageable and provide opportunities for growth.

We will look at how to identify opportunities for using failure as an instructional strategy and how current educational strategies can be improved to use failure more effectively.

## #7U Simulation Journal Club

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Room L8, Level 1

Do you want a quick update on the most recent literature regarding the use of simulation in medical education? Please join us for the Simulation Journal Club where members of the AMEE Simulation Committee have identified the newest simulation literature and handpicked the most influential, innovative, provocative, and interesting papers. We will present these papers and where possible invite the authors to comment on their impact. The format of the Simulation Journal Club will be interactive – allowing time for questions and participant voting for the Premier Paper on Simulation in Medical Education. This paper will win a £1000 award from the Copenhagen Academy for Medical Education and Simulation. This is an excellent opportunity to keep up to date with the increasing amount of research published on this very important topic in medical education.





## #7V Conference Workshop

### 7V (824)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 0.11-12, Level 0

### To self-direct or not to self-direct, that is the question: Shining a light on curriculum dilemmas

#### PRESENTER(S):

- James McMillan, School of Medicine, University of Dundee, UK
- Linda Jones, Centre for Medical Education, University of Dundee, UK
- Shihab Khogali, School of Medicine, University of Dundee, UK

#### ABSTRACT

**Background:** In the current climate of medical education there are a number of dilemmas affecting curricula development. These include: ever increasing and rapidly evolving content; increasing emphasis on adaptive learning and systems of assessment; attention to the hidden curricula; and maintaining student engagement. This workshop aims to study the role of self-directed learning (SDL) in addressing these challenges. The Centre for Medical Education at the University of Dundee has recently designed an SDL module to develop educators who are able to recognise and integrate the skills, knowledge and attitudes required for career long learning into their own practice and pedagogy. This workshop will draw on the experiences of some of those involved and allow participants to discuss whether and how the concept of SDL manifests itself within their curricula.

**Who Should Attend?** We hope to attract anyone with curiosity about SDL, particularly in relation to curriculum development or day-to-day teaching and learning.

**Structure of Workshop:** This interactive session will generate discussion through short inputs, interspersed with small group conversations, aimed at identifying the what, why and how of enhancing the self-directing capacities of undergraduate and postgraduate learners. It will allow space to explore participants experiences of encouraging learners to lead their own learning processes, describe what works for them and share their curriculum design ideas.

**Intended Outcomes:** By the end of the session participants will have:

- Shared experiences of developing their own SDL skills and also of facilitating the development of SDL skills of faculty and students.
- Expanded their understanding of the evidence base supporting the importance of SDL as a professional skill for the healthcare workforce.
- Identified a range of strategies for integrating SDL into curricula development and pedagogical processes.

**Level:** All levels welcome.



## #7W Conference Workshop

### 7W (3374)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 0.49-0.50, Level 0

### From Young Teacher to Young Educator: Crystallising Educational Aspirations into Practical Steps

#### PRESENTER(S):

- Rille Pihlak, University of Manchester, UK
- Susannah Brockbank, University of Liverpool, UK
- Robbert Duvivier, Maastricht University, The Netherlands
- Margot Weggemans, University Medical Center Utrecht, The Netherlands
- Kevin Garrity, University of Glasgow, UK
- Matthew J. Stull, Case Western Reserve University, USA

#### ABSTRACT

**Background:** Engaging in clinical teaching is intrinsic to the day-to-day work of a modern healthcare professional. It is recognised that healthcare professionals in training will need to have a clear understanding of their roles and responsibilities as educators. Furthermore, many clinicians have a passion for education and want to build a future career that combines clinical and educational work. Whilst it seems relatively straightforward to gain experience and develop as a clinical teacher, forging a career as a clinical educator can be more challenging. This interactive workshop seeks to explore what healthcare professionals in training can do to develop their educational practice. The workshop will explore potential differences between the roles of 'teacher' and 'educator' and the career management tools that trainees will require to bridge this divide. It will help participants define their goals as future educators and identify clear, practical steps to achieving them.

**Who Should Attend?** Young medical educators, such as students, junior doctors and residents, who hope to gain an understanding of how they can develop their own practice as educators.

**Structure of Workshop:** The workshop will introduce an Individual Development Plan (IDP) as a planning tool. Using the IDP, participants will have an opportunity to identify their goals and plan tangible ways to achieve them. We will also offer strategies for identifying and overcoming potential future challenges.

**Intended Outcomes:** By the end of this workshop, participants should be able to:

- Identify the differences between 'teacher' and 'educator'
- Define their own medical education aspirations.
- Break down educational aspirations into measurable and achievable goals.
- Identify potential challenges they may face and identify ways to overcome these.
- Identify potential collaborators locally.
- Leave with a clear plan for their own practice to ensure their development as educators of the future.

**Level:** Introductory

## #7X Conference Workshop

### 7X (2411)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 0.96-97, Level 0

### Medical Education: The costs vs the profits

#### PRESENTER(S):

- Aikaterini Dima, International Federation of Medical Students' Associations (IFMSA), Greece
- Adonis Wazir, International Federation of Medical Students Associations (IFMSA), Lebanon
- David Gordon, World Federation for Medical Education, France
- John Boulet, Foundation for Advancement of International Medical Education and Research (FAIMER), USA

#### ABSTRACT

**Background:** Recent years have seen a rapid increase in the number of medical schools, particularly in the number of private institutions. The argument of whether medical education represents a profitable business arises, particularly when looking at its costs, with an average cost of \$278,455 in the US and £70,000 in the UK, numbers much higher when compared to other professional degrees. Alarming is the lack of unambiguous data regarding tuition fees across the world and more so, the lack of rationale for the costs. Medical students often have no access to information on what exactly it is that they are paying for, raising necessary questions regarding the transparency of medical schools. This workshop aims to stimulate a discussion on why this scarcity of information exists, what can be done about it and why, if education is a human right, we are still posing so many financial barriers to access it.

**Who Should Attend?** Anyone with an interest in the finances of medical education, including students and faculty.

#### Structure of Workshop:

1. Introduction of facilitators and workshop aims (5')
2. Literature review: What do we know so far about how much medical education costs and how much profit it generates? (15')
3. Behind the costs: Which parts of medical education are the costliest and how can we cut the costs? What are the educational benefits and challenges? (20')
4. Private and public education: What are the pitfalls of each? Should education costs be subsidized by governments? (30')
5. Students access to information: How much should students know about their tuition fees? (10')
6. Wrap up and going over the outcomes (10')

#### Intended Outcomes:

1. Offer a literature review on the costs and the profits of medical education across the globe, as well as the scarcity of information
2. Identify reasons why medical education costs are so high and whether they are justified or not
3. Consider public vs private medical education and potential pitfalls of each
4. Raise awareness on medical education costs around the globe
5. Information exchange among participants and consideration of a follow-up network

**Level:** Intermediate

## #7Y Conference Workshop

7Y (521)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.17, Level 2

### The Cultivation of Cognitive Curiosity: Key for Learning, Clinical Competence, Engagement, and Well-Being in the Healthcare Profession

#### PRESENTER(S):

- Vijay Rajput, Nova Southeastern University, Dr. Kiran C. Patel College of Allopathic Medicine, USA
- Anuradha Mookerjee, Cooper Medical School of Rowan University, USA
- Marcus Henning, Faculty of Medical and Health Sciences University of Auckland, New Zealand

#### ABSTRACT

**Background:** A contemporary view of clinical competencies falls short of building engagement and well-being for both learners and faculty. In 1899, William James called curiosity “the impulse towards better cognition.” The current working definition of curiosity is a “penchant for seeking new experiences, knowledge, and feedback and an openness to change.” The deprivation sensitivity, joyous exploration, social curiosity, stress tolerance and the seeking of thrills are five dimensions of curiosity described and analyzed in current literature by George Mason. The dopaminergic neural system is the primary intrinsic reward system for curiosity. The generation of intrinsic reward can create “curiosity contagion:” the phenomenon when someone’s curiosity is contagious and can spread from one observing another’s curiosity. This can be used when “role modeling curiosity”. The “Learning Progress” hypothesis shows an association with positive feedback between curiosity and learning. The exploration trait of curiosity also has a positive association with well-being through the Broaden-and Build Theory of positive emotions and psychological research. Curiosity helps decrease diagnostic error by reducing confirmation bias. Faculty members who are curious tend to be more innovative and less adversarial within teams, more openly communicative, and collaborative.

**Who Should Attend?** Medical educators, administrators, junior and mid-career faculty

#### Structure of Workshop:

- Identify gaps in knowledge on cognitive curiosity from participants - 10 minutes
- Make a case for curiosity as competence and review current literature - 20 minutes
- Participants respond to a brief personal curiosity instrument and compare their scores with national reference scores - 10 minutes
- Participants discuss and reflect on their score with colleagues (Dyad) - 10 minutes
- Participants in groups of 4-6, identify practical methods to bolster curiosity in learners and faculty ( 15 minutes)
- Take home points and messages - 10 minutes

**Intended Outcomes:** The learners and faculty are encouraged to enhance the practice of curiosity in the healthcare profession. Curiosity is a key competency that can improve clinical care, promote education, develop inter-professional collaborative practice and nurture well-being.

**Level:** Intermediate or advanced faculty and medical educators and administrators

## #7Z Conference Workshop

7Z (2638)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.44, Level 2

### Burnout amongst European Junior Doctors: recurrent themes, contributing factors and possible solutions

#### PRESENTER(S):

- Ellen McCourt, European Junior Doctors Association
- Vicky Soomers, European Junior Doctors Association
- Josephine Elliott, European Junior Doctors Association
- Brigita Jazbar, European Junior Doctors Association
- Agostinho Moreira de Sousa, European Junior Doctors Association
- Kitty Mohan, European Junior Doctors Association

#### ABSTRACT

**Background:** Burnout amongst doctors is characterized by emotional exhaustion, depersonalisation and reduced feelings of work-related personal accomplishment. Doctors are at an increased risk of mental health issues, including burnout, compared to the general public. The European Junior Doctors' Association (EJD) conducted a review of data from existing surveys amongst ten member countries in order to quantify the rate of burnout in doctors in specialist training, identify recurring themes and define contributing factors. Burnout is a major concern in terms of both the professional and personal needs of doctors. The review data suggests that action should be taken at an organisational level, rather than individual level, to reduce burnout rates amongst doctors across Europe. This workshop will present the findings of this review of burnout rates amongst European Junior Doctors. Participants will be invited to share their experiences, identify recurrent themes and contributing factors to burnout, and discuss possible solutions.

**Who Should Attend?** Doctors in specialist training, postgraduate educators and supervisors, and those with a professional interest in the wellbeing of doctors in specialist training.

**Structure of Workshop:** The workshop will begin with a presentation on burnout amongst European junior doctors, including the burnout data from ten European Countries. This will be followed by group discussions on the themes raised from the data, including excessive work, poor work-life balance and lack of administrative support. We will also discuss contributing factors, such as staff shortages, high workload, increasing administrative burden, low professional autonomy, dissatisfaction with working environment, and lack of appreciation. Participants will be invited to contribute their own experience and discuss possible solutions to this issue.

**Intended Outcomes:** After the workshop participants will

- Understand what burnout is and how it effects doctors in specialist training
- Appreciate the recurring themes and contributing factors to burnout amongst doctors in specialist training
- Consider possible solutions for burnout in their own working environment.

**Level:** Introduction



## #7AA Conference Workshop

### 7AA (1178)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.61, Level 2

### Coaching for Professionalism Remediation: Tools for establishing trust, diagnosing learners and creating remediation plans

#### PRESENTER(S):

- Felise Milan, Albert Einstein College of Medicine, USA
- Adina Kalet, New York University School of Medicine, USA
- Michael Allen, The Albert Einstein College of Medicine, USA

#### ABSTRACT

**Background:** Trainees across the health professions education spectrum must demonstrate professionalism to remain in good standing and progress in training. Some trainees do not meet expectations in this domain and must undergo remediation. However, few educators have received training in remediating learners with professionalism issues and many identify this as one of their most challenging and least favorite educational responsibilities. Learners and practitioners develop at different paces, but the vast majority of medical education programs, base learner progression in time, rather than in competency development or in professional identity development. With a myriad of definitions and theoretical frameworks to consider, educators may benefit from guidance on the use effective and respectful methods to work with trainees who struggle with professionalism.

**Who Should Attend?** This workshop aims to provide best-practice communication tools and skills to healthcare educators at any level who assess or remediate professionalism.

**Structure of Workshop:** After introductions, key concepts including theoretical constructs of professionalism will be reviewed in interactive group discussion. After review of three communication frameworks (Ladder of Inference, Prochaska Stages of Change, and building trust with the PEARLS model- partnership, empathy, acknowledgement/apology, reflection, legitimation, support) and viewing of a video of a meeting between a faculty member and struggling learner, there will be small group exercises involving the application of frameworks to case material with use of checklists to identify specific communication skills demonstrated and discussion of how to tailor approaches to conversations with learners, based on their stage of change. After reviewing assessment of professional identity formation stages through use of the Defining Issues Test (DIT2) and the Professionalism Identity Essay (PIE), we will wrap up with reflections and application to cases at participants' home institutions.

**Intended Outcomes:** Learning Objectives:

1. Describe theoretical frameworks that currently influence how we define and assess professionalism in medical education and the essential role of forming a trusting relationship with anyone in need of professionalism remediation.
2. Apply empathy building skills ("PEARLS") and the trans-theoretical model of stages of behavior change to professionalism remediation.
3. Apply the DIT2 and PIE tools to construct professionalism remediation plans for your learners.

**Level:** Intermediate/Advanced (weve also done beginners version of workshop)

## #7BB Conference Workshop

### 7BB (58)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.83, Level 2

### An international perspective on testing accommodations

#### PRESENTER(S):

- Ioanna Maraki, General Medical Council, UK
- Ilona Bartman, Medical Council of Canada, Canada
- Carl Matheson, Australian Medical Council, Australia

#### ABSTRACT

**Background:** Candidates for assessments in medicine can apply for testing accommodations on the grounds of functional limitations such as physical or mental disabilities. The organisation conducting the assessment is then responsible for deciding which accommodations to grant and how to deliver these. Organisations responsible for assessments across all three countries involved in the presentation (Australia, Canada, and the UK) report that the requests for testing accommodations have greatly increased in the last few years. Disability legislation in those countries also states medical students and licensed individuals must be able to meet the essential requirements of the role, with reasonable accommodations enabling them to do that. Careful decision-making is required by medical education and licensure bodies to balance making assessments as accessible as possible for a wide range of candidates, while maintaining the high standards required for valid assessments in medicine.

**Who Should Attend?** Medical educators and assessment managers involved in the design and delivery of assessments.

**Structure of Workshop:** Each of the speakers will give a short presentation on testing accommodations in their country (Australia, Canada, UK), from the perspective of their organisation (AMC, MCC, GMC). The presentations will cover the common requests and aspects to consider such as relevant legislation, fairness to candidates and examination integrity. The presentations will also highlight the parallels and differences between the three systems. After the presentations, we will run an interactive activity with the audience asking them to consider examples of requests for testing accommodations and make a suggestion on how to support the candidate. This will lead to discussion and Q&A with the audience. At the end, one speaker will summarise the key messages and issues on testing accommodations from the full session.

**Intended Outcomes:** To introduce the considerations for testing accommodations in medicine; launch a global discussion on testing accommodations; understand the international parallels and issues for making accommodations in assessments; and outline considerations for decision-making in the context of common requests.

**Level:** Introductory

## #7CC Conference Workshop

### 7CC (1121)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1015-1200

**Location of Workshop:** Room 2.95, Level 2

### Quality through innovation in medical education: Planning for the future

#### PRESENTER(S):

- David Taylor, Gulf Medical University, United Arab Emirates
- Hossam Hamdy, Gulf Medical University, United Arab Emirates

#### ABSTRACT

**Background:** As part of the 40th Anniversary of Medical Teacher, a series of articles was published aiming to look towards the future (Editorial, 2018). The future is, of course, uncertain, but several themes were addressed (Harden 2018) which allow us to consider what we might, could, or indeed should do to prepare our students. Our options range from developing our use of information technology, through re-thinking curriculum design and delivery, to completely re-visioning medical schools. Since there is a finite amount of time and limited resources, we need to think about those things which must be retained at all costs, and those things which we can do that widen the possibilities for our graduates.

**Who Should Attend?** Anyone who is interested in health professions education and who feels that we have a responsibility to try and make a difference to the communities we serve.

**Structure of Workshop:** There will be a brief presentation to outline the ideas published in the journal, but we will spend most of the time in discussion and debate. Participants will identify innovations already introduced in their context and share them with others in addition to innovations they would like to develop and implement. By the end of the workshop a list of innovative ideas can be produced with feedback given on the practicality of its implementation and possible generalisation to other contexts. We expect that this will lead to a series of proposed action research projects.

**Intended Outcomes:** The minimum outcome for each participant will be a greater understanding of what we face in the future and an idea of the options that are open to us. We will be hoping to extend the intention to developing a series of small scale action research projects that will impact upon the systems and places in which we work.

**Level:** Introductory/intermediate/advanced - those with predictive knowledge of the future would be most welcome.

#### References:

Editorial, (2018) Medical Teacher in Ten Minutes, Medical Teacher 40:10, 977-979

Harden R M, (2018) Ten key features of the future medical school - not an impossible dream, Medical Teacher 40:10, 1010-1015

## #7DD ePosters - Professionalism / Ethics / Career Choice

### 7DD01 (612)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Protecting and Respecting Individual Dignity at End-of-Life (PResIDE) - A Resuscitation Status Discussions Audit, and Barriers to their Occurrence

#### AUTHOR(S):

- Norshima Nashi, National University Hospital, Singapore (Presenter)
- Benjamin Hooi, National University Hospital, Singapore
- John Soong, National University Hospital, Singapore

#### ABSTRACT

**Background:** Discussion of resuscitation status with patients/families are not done consistently by doctors. A Korean study found that 64-70% of older patients do not wish for resuscitation in event of deterioration. In a study of 5 tertiary teaching hospitals, resuscitation status was not documented in up to 97.5% of patients. In cases where resuscitation status was discussed, the literature suggests that the quality may be suboptimal.

**Summary of Work:** The aims of the study were to find out the proportion of suitable patients who had their resuscitation discussed, and barriers to their occurrence. A retrospective cross-sectional audit of 127 patients admitted to the medical service of an integrated hospital for a 1-week period in January 2019 was done to assess the proportion of resuscitation status discussed for suitable patients (defined as patients who had poor premorbid states or had one or more irreversible organ dysfunction). An online survey was undertaken among junior doctors to find out the barriers to such discussions taking place.

**Summary of Results:** 32.3% (41/127) of patients fulfilled the criteria for having their resuscitation status discussed. Out of these patients 48.7% (20/41) did not have their resuscitation discussed. 100% (20/20) of the participants responded to the survey. Among the important factors identified were lack of knowledge (50%), lack of formal training (65%), and lack of confidence (only 55% had moderate to high confidence level). Participants demonstrated a positive attitude towards discussion of resuscitation status, with 85% stating that it is important, and 80% stating that it was their duty. The most frequently identified barriers were difficulty in deciding patients' suitability for resuscitation (95%), concern about difficult patients/families (90%), insufficient time (85%), and fear of inducing anxiety in patients/families (85%).

**Discussion and Conclusions:** There was a significant proportion of patients who did not have their resuscitation status discussed even though they warranted it. Lack of knowledge and training, and difficulty in deciding patients' suitability for resuscitation were main contributing factors.

**Take-home Messages:** Formal training sessions for discussion of resuscitation status should focus on imparting knowledge and communication skills. Senior doctors can facilitate this process by identifying if patients were suitable candidates for resuscitation.

## #7DD ePosters - Professionalism / Ethics / Career Choice

### 7DD02 (752)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Bottom of the social safety net', 'gatekeepers', 'bridge of communication': Using metaphors to make sense of physicians' profession

#### AUTHOR(S):

- Yu-Che Chang, Chang Gung Memorial Hospital, Taiwan (Presenter)
- Lynn Monrouxe, Chang Gung Medical Education Research Center, Taiwan
- Nothando Nkambule, Chang Gung Medical Education Research Center, Taiwan
- Hsu-Min Tseng, Chang Gung University, Taiwan
- Chung-Hsien Chaou, Chang Gung Memorial Hospital, Linkou, Taiwan
- Chia-Te Kung, Chang Gung Memorial Hospital, Kaohsiung, Taiwan

#### ABSTRACT

**Background:** Metaphors are invaluable tools employed to make sense of the world. This is especially important in understanding the complex social dynamics of communities of practice in specialties requiring multidisciplinary medical skills. This study examined the use of metaphors within emergency physicians (EPs) narratives around aspects of their profession.

**Summary of Work:** Using convenience sampling method, we invited 25 Taiwanese EPs to participate in one-to-one interviews. The interviews were transcribed and the transcripts were analyzed using ATLAS.ti. Drawing on social constructionism theory and the Metaphor Identification Procedure (MIP) we identified several conceptual metaphors and metaphorical linguistic expressions underpinning EPs' talk about their profession.

**Summary of Results:** Preliminary results indicated EPs' use of 'white paper', 'journey' metaphors within their narratives of professional development. 'Bottom of the social safety-net', saving people from the 'jaws of death' were used to describe EPs' societal roles. 'Front-line', 'façade', 'gateway', 'gatekeeper', 'bridge' described functions of emergency medicine (EM) in the hospital.

**Discussion and Conclusions:** The notion that EPs are generalists presented EPs with a unique challenge in understanding who they are, and their specific contribution to the healthcare system. The metaphors we identified demonstrate that EPs roles extend beyond their clinical skillset, echoing their 'social mission', emphasizing their role as the hospital's 'face'. Metaphors allow us to relate with EPs' narratives of their specialty. These results demonstrate that metaphor analysis is a conceptual tool to be deployed to construe how physicians from multidisciplinary specialties like family and internal medicine conceptualize their profession.

**Take-home Messages:** The contribution of multidisciplinary specialties such as EM is hard to ascertain, therefore the public has difficulty recognizing such specialties. The choice of metaphors used discloses how EPs interpret their position in society and hospitals in ways that resonate with the public. This is essential in establishing EM as an irreplaceable specialty and in enhancing professional identities of EPs.



## #7DD ePosters - Professionalism / Ethics / Career Choice

### 7DD03 (871)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Post-Graduate Year Doctors' Life Education: Rare Disease Clinic Holistic Health Care Training

#### AUTHOR(S):

- Chiang Chia-Wei, Tungs' Taichung MetroHarbor Hospital, Taiwan (Presenter)
- Ching-Shiang Chi, Tungs Taichung MetroHarbor Hospital, Taiwan

#### ABSTRACT

**Background:** The members of rare disease clinic teams are made up of psychologists, dieticians, respiratory therapists, rehabilitation physicians, and neurologists. Life education is seldom taught at medical school, and we found that it is appropriate to learn life education at rare disease clinics. This study focuses on the life education of PGY doctors.

**Summary of Work:** We invited eight PGY doctors to join our teaching program. This program has three stages: In the first stage, the doctors have to join the Rare Disease Clinic Holistic Health Care lessons. One week later, the participants completed the second stage, which consisted of psychologist-led, in-depth interviews with the PGY doctors. The interview topics included knowledge gained from the observation of outpatients, personal values, life education issues, and philosophical conversations. One month later, the third stage took place where we invited the PGY doctors to complete self-reports to understand the influence of the program on them; we also used metacognition to explore their philosophical thinking toward life.

**Summary of Results:** According to their self-reports, every PGY doctor showed significant improvement in self-awareness abilities and adjusted to using metacognition to reflect on life philosophy. For example, one PGY said, 'I never reflected on people who were born in different kinds of families, so I was too arrogant before. I have to do deep reflection, and I should learn how to respect patients' bitterness in life.' Now, if these PGY are confused about life education issues, they will take the initiative to make appointments with psychologists to have philosophical conversations.

**Discussion and Conclusions:** On the basis of this personalized teaching program, we have realized that if we want to teach life education well, we should help participants understand themselves so that they are aware of their own life philosophy. Thus, they can integrate their personality and their spiritual self.

**Take-home Messages:** This study also summarizes some conceptual topics that are important factors in assisting medical life education : a) exploring medical students' connection to their personal fragile experiences, b) exploring their life values and the lifestyle they want, and c) the identity of a doctor and its meaning.

## #7DD ePosters - Professionalism / Ethics / Career Choice

### 7DD04 (928)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Desirable characteristics of medical doctors from the perspectives of medical students and academic staff in rural generalist medical training program

#### AUTHOR(S):

- Krongkaew Thongruangsooksai, Trang Medical Education Center, Thailand (Presenter)

#### ABSTRACT

**Background:** Trang Medical Education Center collaborates with the Collaborative Project to Increase Production of Rural Doctors. Our mission is to produce an MD to serve in the rural region of Thailand. This study aimed to explore the perspective on desirable characteristics of a medical doctor in faculty staff who are all working in the tertiary care hospital, and medical students in our program who are aiming to be a rural physician after graduation.

**Summary of Work:** - A hundred staff were enrolled in this cross-sectional analytic study, 51 women and 49 men completed the questionnaire. - Sixty-eight clinical year students were enrolled and completed the questionnaire, 38 women and 30 men.

**Summary of Results:** - The most ranking desirable characteristics of rural physician in staff's perspectives was 'knowledge' while 'caring' came the second, which is similar to students' perspectives. - Both groups had no difference in the perspective. The three ranking were 'knowledge,' 'caring,' and 'moral,' respectively.

**Discussion and Conclusions:** - Regarding 'knowledge,' the staff weighted on its necessity more than the students, 92% and 83.8% respectively. - The staff's perspectives focused on 'moral,' 'selfless,' and 'detailed patient examination,' and may be associated with the duration of medical practice experiences. - Neither the staff nor the medical students weighted that proactive work in the community as necessary, 16% and 28% respectively. - The students valued punctuality, professional confidence, and competency in common diseases management more than the staff. This might relate to their outcome-required as a generalist after they graduate from the program. Therefore, generalists from rural hospitals should be included in faculty team.

**Take-home Messages:** Agenda of faculty staff and medical students in the rural generalist training program should be emphasized on characteristics of rural physician who are able to work with the rural community.

## #7DD ePosters - Professionalism / Ethics / Career Choice

### 7DD05 (1017)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Cadaver as a First Teacher: Implementation of a Module for Learning Values & Ethics with Anatomy in a Medical School

#### AUTHOR(S):

- Anne D Souza, Kasturba Medical College, Manipal, India (Presenter)
- Sushma Kotian, Kasturba Medical College, Manipal, India

#### ABSTRACT

**Background:** As a part of learning human anatomy, dissection still plays a major role in the medical curriculum. Therefore, the humanistic values and ethics related to the cadavers could be learnt as a part of early medical curriculum. Making the students aware about the sources of cadavers, the body donation programme and their ethical issues would benefit them to widen their perspective about cadavers in the early phase of their education.

**Summary of Work:** The module was planned and designed by the Anatomy faculty and was introduced to the students during their first visit to the dissection hall. The module included a pre-session survey to obtain their existing knowledge about various aspects of cadaver and the body donation programme. The lectures focused on the importance of cadaver in learning anatomy, body donation and their ethical issues.

**Summary of Results:** Pre-session survey revealed that the students had considerable knowledge about body donation through internet and social media. However, they were not aware about the ethical and humanitarian aspects related to it. A tribute wall created outside the dissection hall, started filling with the words of gratitude for the donors. Students used their creativity to pen down their thoughts through reflections and poems. Paying a silent tribute to the donors before the dissection classes was also practiced.

**Discussion and Conclusions:** Sensitizing them towards handling of the cadavers and understanding the importance of a body donor's contribution would create an impact. This would be an initial step showing respect and empathy to the patients in their future career. This was an attempt to include the essential aspects of handling cadavers in the form of a learning module in the beginning of the academic year of the first year medical students.

**Take-home Messages:** In a medical school where the major source of cadavers is through the body donation programme, sensitizing students during their early days in medical school would add a tiny step towards their journey of practicing professionalism, human values and empathy.

## #7DD ePosters - Professionalism / Ethics / Career Choice

### 7DDo6 (1483)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Impact of research profile of faculty on their evaluation provided by medical students

#### AUTHOR(S):

- **Abida Shaheen, Shifa College of Medicine, Shifa Tameer-e-Millat University, Pakistan (Presenter)**
- Fahad Azam, Shifa College of Medicine, Shifa Tameer-e-Millat University, Pakistan
- Nismat Javed, Shifa College of Medicine, Shifa Tameer-e-Millat University, Pakistan

#### ABSTRACT

**Background:** Medical research at academic institutions helps healthcare systems as new knowledge is created. Faculty members actively involved in medical research further help their students with their updated knowledge and enhanced skills to critically analyze and interpret scientific data which is eventually imparted to their students. Students' feedback for teachers' evaluation is an integral part of medical education for continuous improvement in curriculum. Students may evaluate those faculty members better who keep their knowledge updated with current clinical practices and employ latest learning strategies in their teaching sessions. We conducted a study to assess the impact of teachers' research background on their feedback given by students in a module.

**Summary of Work:** A cross-sectional survey was conducted to correlate feedback score provided by third year medical students for faculty members conducting teaching sessions in one of the modules at Shifa College of Medicine with the recent and total number of research publications of the faculty.

**Summary of Results:** The mean number of total publications of faculty members was  $13.45 \pm 12.41$  and the mean number of recently published articles in the last twelve months was  $2.18 \pm 1.47$ . The mean feedback score for all faculty members on a five point scale was  $4.73 \pm 0.14$ . The p-value for the t-test comparing mean number of recent publications and evaluation score was significant ( $p\text{-value} < 0.001$ ). The p-value for the t-test comparing mean number of total publications and evaluation score was also significant ( $p\text{-value} < 0.05$ ).

**Discussion and Conclusions:** The t-test comparing mean number of recent publications and evaluation score was highly significant illustrating that students provide good feedback to the faculty who continuously update their knowledge and provide recent and high-yield facts in their sessions. The learners also provided positive feedback to faculty who had a comparatively better research profile as it helps create an environment conducive for innovative ideas and stimulate critical thinking of students.

**Take-home Messages:** Participation of faculty members in research activities may improve their teaching skills, generate genuine interest for research among students and improve research output of students in the field of medicine.

## #7DD ePosters - Professionalism / Ethics / Career Choice

7DD07 (1938)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Knowledge, Attitude and Behavior Regarding Antibiotics Misuse and Use Among Medical Students of Public Sector Medical College of Faisalabad

#### AUTHOR(S):

- Mehr Muhammad Adeel Riaz, International Federation of Medical Students' Associations Pakistan - Faisalabad Medical University, Pakistan (Presenter)
- Rameen Shahid, International Federation of Medical Students Associations Pakistan - Faisalabad Medical University, Pakistan
- Areeba Naeem, International Federation of Medical Students Associations Pakistan - Faisalabad Medical University, Pakistan

#### ABSTRACT

**Background:** Antibiotics resistance is a critical issue that needs to be addressed especially in a developing country like Pakistan. Failure of life saving drugs remains the major issue in local hospitals due to over usage of antibiotics. Bacteria resistance to everyday antibiotics will increase, leading to invalidation of current treatments. As a result, this will lead to prolonged hospital stays, unaffordable medical costs, and increased mortality. In 2014, WHO reported that there were about 480,000 cases of drug resistance because of antibiotic misuse. 1 1- 'Antimicrobial resistance' World Health Organization page

**Summary of Work:** This study was designed to assess and evaluate the knowledge, attitude and behavior regarding antibiotics misuse among medical students, this research was conducted. Study and design: Observational descriptive study was conducted among the medical students of public sector medical college of Faisalabad. Methodology: 200 students were interviewed according to the pattern of questionnaire.

**Summary of Results:** 82% of students were most likely to use antibiotics during common viral infections. However, 88.5% knew about the consequences of antibiotics misuse i.e. antibiotics resistance, but still 53.50% seek non-prescribed antibiotics from medical stores and 60.5% of them didn't complete the antibiotics course recommended by their doctors. 40.50% of students admitted to self medicate themselves on antibiotics twice a year.

**Discussion and Conclusions:** It is not wrong to say that antibiotic resistance has itself become a health problem. When the knowledge of medical students about was observed, many students 82% (n=164) of students believed that antibiotics are used to treat viral infections instead of bacterial. This particularly highlights the most important reasons of antibiotics misuse. While asking students about their general knowledge about what antibiotics misuse causes, 88.50% (n=177) of students were aware of the antibiotics resistance effects. Despite having strong base of knowledge about misuse effects, students were continuously using antibiotics without any precaution. Lack of counselling about hazards and long lasting side effects of antibiotics can be the root cause.

**Take-home Messages:** Efforts are necessary to persuade the health education programmes to inform the general public and health care workers about the risk of antibiotics resistance and its hazards.



## #7DD ePosters - Professionalism / Ethics / Career Choice

7DDo8 (2836)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Impact of a career simulation program using gamification with virtual turning point for medical students in Japan

#### AUTHOR(S):

- Shuzo Teruya, Okinawa Yaeyama Hospital, Japan (Presenter)
- Ayako Shibata, Yodogawa Christian Hospital Obstetrics & Gynecology, Japan
- Junichi Tanaka, Tohoku University Hospital Department of Education and Support for Regional Medicine, Japan
- Tatsuya Fujii, Sanno Hospital Orthopedics, Japan
- Takeshi Kondo, Center for Postgraduate Clinical Training and Career Development, Nagoya University Hospital, Japan

#### ABSTRACT

**Background:** Transition is events, or non-events that results in changed relationships, routines, assumptions, and roles. Students go through transitions and development constantly and consistently throughout their lived experience. However, transitions can be challenging for medical students and doctors. One reason is that transition comes at an unexpected time. Moreover, overcoming the transition itself is accompanied with considerable difficulty. There is a possibility that valuable opportunities are missed by burnout, depression, or escape. Schlossberg stated that the 4S's, ie self, support, situation, strategy, are important to overcome the transition. Here we report simulation-based education using gamification technique to support transitions in medical students' careers in Saitama Medical University, Japan.

**Summary of Work:** A workshop using table talk type career simulation game was conducted for 131 medical students in Saitama Medical University. The students had completed all lectures of basic medicine and clinical medicine and was in a state just before entering bedside learning. The students created fictitious medical student characters and virtually experience doctors career while randomly acquiring career event cards by group work. We analyzed changes before and after the workshop using questionnaires.

**Summary of Results:** All 131 students who participated got responses. Characteristic of the student was that 112 (85.4%) belonged to some club activities in their college. 6 students who would not prioritize their interests in deciding the future specialties had a tendency to choose specialty with emphasis on human relationships and rewards of the job. The number of students who noticed the new strengths was 51 (38.9%), the number of students newly noticed support was 29 (22.2%).

**Discussion and Conclusions:** Schlossberg's transition theory is one of the practical theory applicable to career education. A virtual experiential game of doctors life using virtual turning points might be useful for students to think about their strength and surrounding support.

**Take-home Messages:** Approach using gamification is useful for career education.

## #7DD ePosters - Professionalism / Ethics / Career Choice

7DD09 (2962)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### An Informed Consent: How Informing Is It? Reflective Experience from the Middle East

#### AUTHOR(S):

- Sharifa Redha, Kuwait University, Faculty of Medicine, Kuwait (Presenter)
- Manal Bouhaimed, Medical Education & Leadership Club, Kuwait University, Faculty of Medicine, Kuwait
- Maryam AlFailakawi, Kuwait University, Faculty of Medicine, Kuwait

#### ABSTRACT

**Background:** Gibbs' reflective cycle is a popular model for reflection that includes 6 stages. The ethical practice of medicine is now guided by informed consents. It is used for legal, ethical, or administrative purposes.

**Summary of Work:** We are presenting two scenarios reflecting two medical students experiences in a developing country in their clinical years. The first scenario was in a tertiary care hospital's pediatrics outpatient clinic in which a one-year old child, who was a known case of hypoplastic left heart syndrome presented with both of his parents and his nurse. His parents were told that he needs 3 surgeries to correct the cardiac deformity that he was born with; two of which he already underwent. The father was required to sign a series of consents. While the second scenario describes a failed attempt to take a brief history from a nine-year-old boy who was found asleep. From his file it was discovered that he was a case of foreign body insertion in the urethra. After overhearing one surgeon bragging about performing the surgery, and after further discussion about the case, it was found that an informed consent was allegedly signed by the patient's father. However, there was no sign of that consent. The consultant responsible for the unit was confronted, who later was discovered not to be present during the night of the surgery, and probably was misinformed about the case.

**Summary of Results:** In case of the first scenario, a detailed interview was done. In case of the second incident, no informed consent was found, and therefore proper analysis could not be conducted.

**Discussion and Conclusions:** As a medical student and a future doctor, it is mandatory to realize the importance of an informed consent, its process, and its main components. It should be written in an understandable language that is easily comprehended. It also should be performed in a private setting, and the patient or his guardian should be given enough time to process the information and ask questions.

**Take-home Messages:** Not adhering to consent protocols could potentially raise the percentage of medical errors and thereafter threaten the well desired trust relationship between doctor and patient.

## #7DD ePosters - Professionalism / Ethics / Career Choice

### 7DD10 (3045)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Class attendance in the disruptive era: what undergraduate medical students and teachers think

#### AUTHOR(S):

- Vorapol Jaroovanichkul, Faculty of Medicine, Chulalongkorn University, Thailand (Presenter)
- Stella Howden, The Centre for Medical Education, University of Dundee, UK

#### ABSTRACT

**Background:** In the era of disruptive technologies, class attendance is widely discussed among medical educators in many aspects; furthermore, attendance is perceived differently by students and teachers. In many Thai medical schools, attendance is mandatory, but the same debates are evident. The study aims to explore Thai students and teachers' attitudes towards attendance and a monitoring system as well as their perspectives on reasons for attendance and absenteeism.

**Summary of Work:** A mixed-method approach was used to explore students and teachers' attitudes. An internet-based survey was implemented to collect data. Five-point Likert scales were adopted for collecting attitudinal data whilst free-text answers were used to capture qualitative data. Descriptive statistical analysis, univariate analysis, and the Mann-Whitney test were applied for generating the quantitative results while content analysis was implemented for constructing the qualitative findings.

**Summary of Results:** A total of 188 (20.5%) of 917 preclinical students and 71 (43.6%) of 163 teachers at Faculty of Medicine, Chulalongkorn University completed the survey. The findings showed the significantly different attitudes between the students and the teachers towards learning from lecture videos instead of attending classes in person ( $P < 0.05$ ). Most students proposed that lecture videos could replace actual class attendance (76.1%) while the teachers were more likely to reject them (42.3%). The common reason for absenteeism was student's sickness while the main reason for attending their classes was an attendance mark. Additionally, both of them opposed attendance monitoring in every session, particularly lecture classes.

**Discussion and Conclusions:** Technology advancement has an impact on their attitudes towards attendance differently. Many teachers suggest that class attendance is beneficial for students to interact with them directly whilst the students argue this is not the case and raise some scenarios that technology can assist their learning in support of absenteeism. However, they do have some mutually agreeable ideas on several aspects which could be the basis for developing future joint agreements to enhance class attendance.

**Take-home Messages:** The value of class attendance is perceived differently among students and teachers. To resolve the conflict, all stakeholders should share their views to formulate the attendance rules and policy.

## #7DD ePosters - Professionalism / Ethics / Career Choice

7DD11 (3154)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Cadaver as a teacher: I will pay more respect to human body

#### AUTHOR(S):

- **Mohammad Taherahmady, Tehran University of Medical Sciences, Iran (Presenter)**
- Mahboobeh Khabaz Mafinejad, Tehran University of Medical Sciences, Iran
- Kobra Mehran Nia, Tehran University of Medical Sciences, Iran
- Fariba Asghari, Tehran University of Medical Sciences, Iran
- Parisa Farahani, Tehran University of Medical Sciences, Iran
- Ahmadreza Dorri, Science and Research Branch, Islamic Azad University, Iran

#### ABSTRACT

**Background:** Dissection which is the first encounter of medical students with the human body is considered as one of the most important learning experiences. Therefore, it can be one of the educational opportunities to encourage students to treat a corpse or a cadaver with dignity. This study was designed to assess the perspective of fresh medical students towards attending the dissection room and familiarity with professional behaviors towards cadavers.

**Summary of Work:** Single group pre-test and post-test design were conducted at Tehran University of Medical Sciences in 2018. In order to provide an opportunity to reflect on the views of medical students about how they think about cadavers, a researcher-made questionnaire was completed. Items were scored on a five-item Likert scale ranging from completely agree =5 to completely disagree=1. Content validity of the questionnaire was examined by seven experts through two round Delphi technique. Reliability of the questionnaire was calculated by Cronbachs alpha (0.89).

**Summary of Results:** The total number of medical students was 245 and totally 225 questionnaires were completed and returned. 65% were male and the average age of them was 18.32 years. Only 38.2% of medical students in pre-test believed that they know what professional behaviors are expected from them in the dissection room. While 65.8% of students in post-test mentioned that attending at dissection room and providing a good opportunity to think and reflect on the principles of professional behaviors during practical anatomy sessions cause to treat cadavers with proper respect and dignity. It is showed that 94.7% of medical students stated that they would use the ethical points regarding cadavers in practice.

**Discussion and Conclusions:** The results indicate that students' awareness of the principles of professional behaviors towards cadavers was changed by reflecting on and in dissection classes in initial exposures.

**Take-home Messages:** Describing professional codes in the first exposure of medical students to dissection room helps to better understand the principles of cadavers' dignity.

## #7DD ePosters - Professionalism / Ethics / Career Choice

7DD12 (3349)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer B, Level 2

### Changes on medical students' specialty preferences during their degree: the role of gender

#### AUTHOR(S):

- Ana Isabel Gouveia, Faculdade de Ciências da Saúde - Universidade da Beira Interior, Portugal (Presenter)
- Ricardo Rodrigues, Faculdade de Ciências Sociais e Humanas - Universidade da Beira Interior, Portugal
- Isabel Neto, Faculdade de Ciências da Saúde - Universidade da Beira Interior, Portugal

#### ABSTRACT

**Background:** Specialty preferences are associated with different categories (Querido et al, 2015) such as school and student characteristics, student values, career needs (as expected income or status) and perception of specialty characteristics. Controversial results were found in the literature when students gender is considered. Some works didn't find any evidence (e.g., Diderichsen S et al 2013) but some revealed significant gender differences (e.g., Alers et al, 2014).

**Summary of Work:** The aim of our work is to analyze the specialty preferences in two different moments of Medical Degree (the first and the final year), and the specialty preferences by gender in each of these moments. Questionnaires were responded by medical students in their first year (2012/13) and in their last year (6th, 2017/18). One hundred forty-two students responded to the survey on the first moment, and eighty-two on the second moment. The students' preferences for choosing their medical specialty were assessed. We used the related-samples Wilcoxon signed rank test to examine differences between the choices in the two moments.

**Summary of Results:** Most preferred specialties in the first year were Pneumology, Cardiology, and General Surgery for female students, and Cardiology, Neurology, and Palliative Medicine for male students. In the final year, the preferred specialties were General and Family Medicine, 'Undecided', and Gynecology/Obstetrics for female students and Gastroenterology, Nephrology, and General and Family Medicine for male students. Besides Gynecology/Obstetrics, all the other preferred specialties in the final year had got no preferences in the first year, and there were no undecided students. Palliative medicine, preferred in the first year, was not chosen at all in the last.

**Discussion and Conclusions:** Specialties preferences changed dramatically (e.g., General and Family Medicine) during the medical degree and gender differences were identified, some consistent with literature as Gynecology/Obstetrics (Alers et al, 2014).

**Take-home Messages:** Students' specialty preferences change a lot during their medical degree. Besides, male and female students tend to show different preferences. More research should be performed to uncover what motivates specialty preferences during different moments of medical degree - as curriculum and students characteristics - and the relations between possible reasons.



## #7EE ePosters - Simulation / Virtual Patients

### 7EE01 (286)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Evaluating the effect of training final-year medical students in telephone communication and prioritisation skills in the simulated environment

#### AUTHOR(S):

- **Sophie Ragbourne, King's College London, UK (Presenter)**
- Josephine Seale, Kings College London, UK
- Nicola Purkiss Bejarano, Kings College London, UK
- Ranjana Raj, Kings College London, UK
- Lewis Whittingham, Kings College London, UK
- Colin Butchers, Kings College London, UK

#### ABSTRACT

**Background:** Receiving clinical tasks from fellow healthcare professionals via the telephone and appropriately prioritising the resultant job list are essential non-technical skills of a doctor that are paramount to patient safety. However, despite an increasing focus of medical curricula on human factors such as doctor-patient interactions, there exists limited training on skills related to telephone communication with colleagues and job list prioritisation. The acquisition of these abilities is instead reliant upon often variable clinical placements and exposure. The present study sought to address this issue by providing formalised training in these skills to final-year medical students.

**Summary of Work:** The effect of a communication and prioritisation training session on the ability of final-year King's College London medical students (Group A, n=25) to extract relevant information and prioritise workload in a simulated on-call environment was compared to untrained final-year students (Group B, n=25) using a standardised observation sheet. A questionnaire was used to determine student opinions on their training and/or simulation experience.

**Summary of Results:** Group A extracted the relevant task related information during the simulation and prioritised their job lists appropriately on significantly more occasions than Group B. Group A students also reported increased confidence in answering calls and list prioritisation. The majority of students from both groups advocated the inclusion of the training and/or simulation into the medical curriculum.

**Discussion and Conclusions:** Training in telephone communication and prioritisation significantly improves the subjective and objective ability of final-year medical students to prioritise jobs in a simulated on-call environment. This has important patient safety implications and demonstrates the benefits of including such training in the medical undergraduate curriculum.

**Take-home Messages:** o It is an important patient safety issue that doctors are competent and capable in the process of receiving handovers and prioritising resultant tasks; o Formal training in telephone communication and prioritisation significantly enhances this skill set in a simulated environment and is favourably received by final-year medical students; o Institutions should consider the addition of formal training in these skills to the undergraduate medical curriculum.

## #7EE ePosters - Simulation / Virtual Patients

### 7EE02 (833)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Relationships between simulation stress and performance in nursing and medical students: a pilot study

#### AUTHOR(S):

- Johannes Driessen, Royal Cornwall Hospitals Trust, UK (Presenter)
- Sanjeev Sahota, Royal Cornwall Hospitals Trust, UK
- Ryan Phillips, Royal Cornwall Hospitals Trust, UK

#### ABSTRACT

**Background:** Simulation of acutely unwell patients can be a stressful experience for medical and nursing students. Stressors can prompt beneficial coping behaviours, or drive anxiety and distress, depending on their quantity and intensity and, in turn, can affect learning outcomes. We investigated the relationship between perceptions of stress and qualitative and quantitative measures of performance, in order to inform the design of future simulation courses.

**Summary of Work:** A mixed group of nursing and medical students (n=10) were recruited to a six-week simulation course. Students completed pre- and post-course questionnaires, comprising one assessment of clinical knowledge and one self-assessment of skills, such as leadership and interdisciplinary team-working. Scoring across both papers was then assessed in the context of students self-reported stress scores before and after the course, using paired t-tests.

**Summary of Results:** Self-reported stress did not change significantly overall following the course (-13% p=0.44), with equal proportions describing an increase or decrease in stress. Students reporting similar stress scores pre- and post-course showed an average 52% (p<0.05) improvement in scoring on the clinical paper, whilst small, but non-significant changes were noted in other groups. Students reporting high levels of stress pre- and post- course showed less improvement (16% p=0.07, 15% p=0.13 respectively), compared to students reporting low stress (24% p=0.13, 25% p=0.06), although these results only approach significance. Students self-reporting moderate or stable stress levels also tended to score more highly in measures of confidence. Results were comparable between disciplines.

**Discussion and Conclusions:** This small study demonstrates a number of trends between self-reported stress and performance, although larger studies are required to determine their significance. In particular, students reporting low to moderate stress tended to outperform more stressed colleagues in clinical knowledge and self-reported confidence. Follow-up studies should consider how to modify training to optimise perceived stress.

**Take-home Messages:** Perceived stress in simulation appears to affect confidence and retention of clinical knowledge. There is a role, therefore, for optimising stress in order to better achieve learning outcomes. Further work is required to determine the significance of this relationship and to investigate methods of identifying and modulating stressors.

## #7EE ePosters - Simulation / Virtual Patients

7EE03 (998)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### How does a virtual patient format influence medical students' approaches towards psychiatric patients? A liminal perspective

#### AUTHOR(S):

- Kamilla Pedersen, Centre for Health Sciences Education, Aarhus University, Denmark (Presenter)
- Anne Mette Morcke, Copenhagen Academy for Medical Education and Simulation at Rigshospitalet, Denmark
- Charlotte Paltved, Corporate HR, MidtSim, Central Denmark Region, Denmark
- Ole Mors, Psychiatric Research Unit, Aarhus University Hospital, Denmark
- Charlotte Ringsted, Centre for Health Sciences Education, Aarhus University, Denmark

#### ABSTRACT

**Background:** Little is known about how preparatory teaching formats influence medical students' attitudes and knowledge toward patients in clinical settings. The objective of this study was to explore the influence of a virtual patient format on medical students' patient approaches in their psychiatric clerkship.

**Summary of Work:** A virtual patient format on diagnostic interviewing skills, using video filmed simulated psychiatrists and patients, was facilitated in a preparatory lecture. The virtual patient format aimed at fostering critical reflection and discussion of how various patient approaches affect the diagnostic process. Our study was an explorative qualitative study using rich pictures, asking the students to draw their experiences in combination with interviews. We explored how the students' navigated insights from the virtual patient format during clerkship. The data was subject to thematic content analysis using anthropological classical liminal theory as a lens.

**Summary of Results:** Students actively involved in patient interviews demonstrated an improved focus on patient perspectives they related to the virtual patient format. Students who were passive observers of patient interviews focused on their own appearance and mimicked the simulated psychiatrist's in the virtual patient format to fit the situation at focus.

**Discussion and Conclusions:** Students experienced a variety of emotive stress similar to a liminal trickster experience when confronted with patients in the threshold to clerkship. The perceived support and encouragement from resident staff influenced the students' ability to approach and engage with patients. The study identified two different approaches in how the students' navigated insight from the virtual patient cases during patient interviews. Students who had active roles in their clerkship was found to adopt a patient-centered focus, but worked differently if the student was passive then causing a self-centered focus.

**Take-home Messages:** - Student engagement in learning seems highly influential on whether students adopt a patient-centered awareness or self-centered focus. – Lack of support and encouragement from a liminal ritual elder in the threshold to and integration with clerkship may undermine efforts to stimulate patient-centered awareness initiated with virtual patients in preparatory teaching formats.

## #7EE ePosters - Simulation / Virtual Patients

### 7EE04 (1118)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### E-patients as educators in Iran's medical education system: challenges and recommendations

#### AUTHOR(S):

- Shima Tabatabai, Shahid Beheshti University of Medical Sciences, Tehran, Iran (Presenter)

#### ABSTRACT

**Background:** The internet changed many things in medicine and therefore in medical education. With greater information availability, there is not an information asymmetry in which physicians served as the dominant source of medical information. The emergence of Social web-enabled the public to easily create and share health-related content online. Communication arises, Collaboration becomes simple. The E-patients are electronically involved in gathering medical information and are empowered, enabled, and engaged. The number of e-patients is growing, and they use the information they find online in their health management. The study aim is to propose recommendations for engaging E-patients in the medical education system in Iran.

**Summary of Work:** This qualitative study included a literature review and interviews. First, we recognized the role of e-patients as educators worldwide. Then, we interviewed with the key informant to understand the challenges for recognizing e-patients as educators in Iran. The Interviews analyzed through thematic analysis.

**Summary of Results:** 7 challenges were explored; - Lack of experiences in the development of patient education tools; - Lack of systematic support for e-patients to represent their experiences for medical students; - Lack of innovative curriculum with considering e-patients as educators; - Lack of formative feedback for e-patient to enhance their education competencies; - The need for new models of team-based learning in collaboration with e-patients; - The need for Integrating the patients voice into learning assessment tools; - The Need for supporting for the contributions of both patients and providers to care decisions.

**Discussion and Conclusions:** There are 7 recommendations for supporting E-patients role as educators in Iran's medical education system: - Using the experiences of e-patients in the development of patient education tools; - Create Patient as Educator training program; - Create a formative feedback tool (completed by e-patients) for addressing medical students communication skills; - Improve e-patient education competencies through formative feedback; - Create and implement new models of team-based learning in collaboration with e-patients; - Establish a committee in medical schools for supporting the role of e-Patient as Educators; - Develop multimedia from e-Patient as Educator.

**Take-home Messages:** The emergence of E-patients and their active role in care decisions should be considered in the medical education system.

## #7EE ePosters - Simulation / Virtual Patients

7EE05 (1536)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### What is the best virtual patient model? A focus group study

#### AUTHOR(S):

- **Andrzej Kononowicz, Jagiellonian University Medical College, Poland (Presenter)**
- Ada Frankowska, Jagiellonian University Medical College, Poland
- Malgorzata Sudacka, Jagiellonian University Medical College, Poland
- Stanislaw Górski, Jagiellonian University Medical College, Poland
- Inga Hege, University of Augsburg, Germany

#### ABSTRACT

**Background:** Much discussion in research revolves around the optimal model of virtual patients for effective learning. Should it be linear or branched; menu-controlled or navigated using natural language; introduced at the beginning or the end of the medical curriculum? In this qualitative study we asked students about their expectations for the optimal use of virtual patient systems at the faculty.

**Summary of Work:** Participants were nine (4 female and 5 male) medical students at Jagiellonian University in their fourth year of study. Students were presented with a short virtual patient scenario in the CASUS system currently in use at the university and asked about their expectations for a virtual patient system in the future. We audio recorded 48 minutes of focus group discussion. The transcript contained 8408 words in 370 participants' utterances and was coded using in vivo method (Saldaña, 2016). In the second cycle the codes were categorised hierarchically and where needed extended by new ones implied from the text to obtain a focused structure.

**Summary of Results:** The qualitative analysis of the text resulted in selecting 244 in vivo codes. The discussion revolved around five major themes: general opinion of the software (the thing of the future), two visions of how a virtual patient should look (the two ways), features to be improved, proposed 'implementation' in the curriculum and others.

**Discussion and Conclusions:** The general opinion of the current system expressed in the focus group was positive, but there were also critical voices demanding more autonomy in the scenarios. The opposing positive and negative feelings were partially reconciled in further discussion when two complementary visions of a virtual patient system emerged: a professor who leads and a role-playing game with no backward button located in different stages of the curriculum (e.g. second and fifth year).

**Take-home Messages:** The simple conclusion often overlooked in many discussions is that there is no best virtual patient model but instead a right match of a virtual patient model to the current needs in the curriculum.



## #7EE ePosters - Simulation / Virtual Patients

### 7EE06 (2079)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Virtual Patients for training the trainers: Experiences from the medical teachers of tomorrow

#### AUTHOR(S):

- Eleni Dafli, Aristotle University of Thessaloniki, Greece (Presenter)
- Ioannis Fountoukidis, Aristotle University of Thessaloniki, Greece
- Panagiotis Bamidis, Aristotle University of Thessaloniki, Greece

#### ABSTRACT

**Background:** Virtual Patients (VPs) have been increasingly used in modern medical education, since there are plenty of evaluation results that demonstrate that they may improve cognitive and behavioral skills better than traditional methods do. However, their use is usually restricted to medical students and young doctors.

**Summary of Work:** The Medical School of Aristotle University of Thessaloniki has made remarkable efforts to improve the professional development of medical trainers. As part of this effort, VPs were incorporated in the 'training the trainers' program, so as to support the training process. The young trainers were then asked to evaluate this kind of VP use and suggest how these modern educational resources may guide personal and professional development not only of future doctors, but medical teachers as well. A 40 item web-based questionnaire, including Likert-type and open-ended questions was used for the evaluation.

**Summary of Results:** Eleven medical trainers attended the 'training the trainers' session and then evaluated the VP use within this educational framework. The results were very positive and encouraging and most of the attendees suggested the incorporation of VPs in the formal program of training the trainers for the future medical teachers.

**Discussion and Conclusions:** VPs can improve quality of training, not only at student level, but at medical educator level as well. Making training relevant through design and delivery by scenarios, and easily accessible at every place and any time, enhances the engagement of medical trainers.

**Take-home Messages:** The extension of VP use in the field of medical educators' training programs seems a promising method that may help in the professional development of the future medical teacher.

## #7EE ePosters - Simulation / Virtual Patients

**7EE07** (2088)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### A pilot study of the obstacles and highlights performance of different training year physicians in difficult airway intubation training program - in a novel simulator

#### AUTHOR(S):

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- Yu-Che Chang, Chang Gung Memorial Hospital, Linko, Taiwan
- Chung-Hsien Chaou, Chang Gung Memorial Hospital, Linko, Taiwan

#### ABSTRACT

**Background:** Endotracheal intubation is a complex psychomotor skill. Previously, we have only been able to evaluate success/failure of trainees' performances by the final result. Nowadays, new simulators are available, providing greater feedback. We conducted a training program using this technology to evaluate the intubation process of participants from different training years.

**Summary of Work:** Fifty-three trainees participated. Questionnaire investigation of their previous intubation experience was conducted. Three different intubation tools were applied on four difficulty levels of scenarios. Success rate, time of intubation, applied force, Cormack Lehane grade, and impulse force in each corresponding group were analyzed and compared on every practitioner.

**Summary of Results:** The success rate of lock jaw scenario has statistical significance across ranks. In difficult scenarios, less than one-third of young trainees operated successfully owing to them spending too much time getting a good laryngeal view. The obstacle for attending physicians in same scenarios was rushing, causing a greater impulse force.

**Discussion and Conclusions:** In the failed group, young trainees took a lot of time and force. The attending physicians did not show identical results. The possible reasons related facing the difficult situation, attending physicians know when to stop and ask for help to prevent iatrogenic injury based on their past experience. Years of training, difficult airway situation and tool selection affect the success rate. Facing difficult airway scenarios, young trainees should seek for help from higher-level physicians, who are recommended using video laryngoscope. In the same scenarios, residents and attending physicians reach out for help from anesthesiologists after one attempt of intubation.

**Take-home Messages:** Success rate in this study presented that both experience and intubating tools are crucial. Hence novice should seek for senior help properly. Seniors were recommended using video laryngoscope for intubation instead of direct laryngoscope. Juniors should practice more ordinarily for better outcome and more experience of figuring out stop-loss point.

## #7EE ePosters - Simulation / Virtual Patients

### 7EE08 (2296)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### In situ Mock Codes or Sim Center Team-Based Training: Best bang for the buck? Lessons learned at our Center: Content

#### AUTHOR(S):

- Mena Khan, Central Michigan University College of Medicine, USA (Presenter)
- Robert Sasso, Central Michigan University College of Medicine, USA

#### ABSTRACT

**Background:** Our institution has been conducting hospital in-situ mock codes for several years with marginal documented improvement in team performance and code quality. A root-cause analysis for this lack of improvement revealed several plausible factors involved: 1. Lack of true code teams, but instead floor-to-floor rapid response teams of variable composition 2. Participant frustration with lack of familiarity with the mannequin 3. Suboptimal buy-in due to lack of orientation to simulation culture and pressure to return to clinical duties 4. Inadequate time and participation in the debriefing session

**Summary of Work:** We began a supplementary Simulation Center-based Team-Based Training for hospital personnel engaged in code-team events. This program includes an orientation lecture to simulation, debriefing techniques, and communication tools. Two simulated events (including patient codes) are then run. The first is debriefed using a rapid cycle technique and the second is traditionally debriefed at the case conclusion. Adequate time is allowed for a three-stage debriefing and case review.

**Summary of Results:** Code quality is gleaned from our simulators (Sim Man 3G) regarding performance parameters (hand placement, depth of compression, adequacy of ventilations, etc.). Preliminary data has shown significant improvement of these objective measures after the second simulated case. Percentage of time in which all AHA guidelines are met during the code was significantly improved over in-situ mock code training alone.

**Discussion and Conclusions:** Our mock code program has shown value in assessing hospital systems' strengths, deficiencies, staffing adequacy and response time. A detailed assessment of teamwork, communication and code performance can be gleaned, but improvement in these skills has not been well demonstrated. By survey, our external team-based program is greatly preferred by our learners. It has demonstrated, in the short-term, better code performance and adherence to AHA guidelines. Acceptance of feedback after sessions is likely better accepted by learners with an introduction to simulation culture and debriefing.

**Take-home Messages:** Mock codes have great value in assessing hospital systems, adequacies, and performance. However, an adjunct of simulation center team-based training may add significant improvement in actual code performance and team communication skills and efficiency.

## #7EE ePosters - Simulation / Virtual Patients

### 7EE09 (2680)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### A new innovation: flashlight visual field simulator: easier to understand the complex optic pathway, low cost and more fun

#### AUTHOR(S):

- **Napat Thanakitjanont, Vachira Phuket Hospital Medical Education Center, Thailand (Presenter)**
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#### ABSTRACT

**Background:** Visual field defects are common condition can be found in general practice and visual defect can also decrease quality of life, but it is difficult to understand how to localize the abnormality. As future physicians who may encounter patients with visual field defects in general practice, it is important for medical students to learn the science and clinical presentation behind vision loss. So we simulate optic pathway to be a simple model, which more fun and easier to understand in low cost (less than seven pounds).

**Summary of Work:** Model was simulated from easy materials such as glasses, corrugated cardboards and flashlights to be an optic pathway. Lesion can be cut off and showed on the scene. This simulator was used as instructional media. Data was collected in twenty 5th year medical student by a questionnaire which divided into 2 parts: first part is about understanding, six visual field defect questions were done, and the second part is satisfaction by ten scale compare lecture teaching style and using simulator, then the data was analyzed by descriptive statistics.

**Summary of Results:** 5th year medical student can correct six questions mean score was 5.45 (90.83%), level of satisfaction of lecture teaching style is 7.0 (70%), compare to flashlight visual field simulator 8.3 (83%). Reflection shows that stimulator being more attractive, more enjoyable and easier to understand than only lecture teaching style.

**Discussion and Conclusions:** Discussion: As a result, Medical students more satisfied learning by simulator than traditional lecturing, because lesion can easy to be cut off and show on the scene suddenly, so it is more understandable, and more enjoyable than imagination like lecturing. Conclusion: From complex pathway can become easier, more enjoyable, more illustrating by using visual field simulator, but it's just in only less than 7 pounds.

**Take-home Messages:** Visual field simulator can easy to make in low cost, so optic pathway isn't complicated anymore!

## #7EE ePosters - Simulation / Virtual Patients

### 7EE10 (2683)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Simulation Technologies in Cardiopulmonary Resuscitation: From Basic Approach to Team Training

#### AUTHOR(S):

- Anton Vorobev, Surgut State University, Russia (Presenter)
- Dmitriy Sukharev, Surgut State University, Russia
- Liudmila Kovalenko, Surgut State University, Russia
- Mesheryakov Vitaliy, Surgut State University, Russia

#### ABSTRACT

**Background:** Nowadays mastering of practical skills by students and graduate professionals using robots-simulators is an effective and non-alternative direction in clinical medicine.

**Summary of Work:** Cardiopulmonary resuscitation (CPR) of patients is one of the most sophisticated skill sets to be acquired in the study process, as well as to be applied in the real practice. At our University CPR skills learning is performed at three stages.

**Summary of Results:** On the first stage of the training undergraduate students learn basics of pathology in vital organs and systems of human body during clinical death, principles of emergency care and train practical skills of life support and reanimation on a basic CPR human simulator with electronic controller SHERPA (South Korea). This trainer allows students to practice basic skills of CPR and practice using automatic external defibrillator - extended reanimation. On the second stage, after passing clinical disciplines students get to practice CPR skills under objective assessment of correct implementation of CPR algorithms on an adult human simulator RODAM (South Korea). The trainer simulates self-sustained breathing with chest excursion, carotid arteries pulsation and pupillary light reflex. Using wireless connection with a laptop, an instructor is able to simultaneously evaluate real-time training process of a students' group. On the third stage CPR skills are practiced in the settings very close to real work of emergency service, when a team of professionals (medical doctor, assistant, nurse) perform reanimation activities on autonomous wireless robot of 6th generation 'Apollon' (USA-Canada).

**Discussion and Conclusions:** The key feature of the command training is that extended CPR is augmented with medical drugs administration followed by a consequent feedback. The continuous gradual training of medical professionals on the undergraduate stages (1-2) and the postgraduate stage (3) is aimed at CPR skills mastering excellence and prevention of new lethal cases in the real clinical practice.

**Take-home Messages:** The most effective is the step-by-step system for training specialists in CPR with the use of simulators of various degrees of complexity.



## #7EE ePosters - Simulation / Virtual Patients

### 7EE11 (3054)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Teaching How to Save Lives: CPR Teaching Through Simulation and Multimedia Resources

#### AUTHOR(S):

- **Maíra Loesch, Pontifícia Universidade Católica do Paraná, Brazil (Presenter)**
- Camila Hartmann, Pontifícia Universidade Católica do Paraná, Brazil
- Jose Knopfholz, Pontifícia Universidade Católica do Paraná, Brazil
- Odenir Nadalin Junior, Pontifícia Universidade Católica do Paraná, Brazil
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#### ABSTRACT

**Background:** The use of active methodologies in teaching aims to better prepare professionals for the needs of society. The Brazilian Curricular Guidelines for medical education advocates health education approaches focused on the student as the protagonist of the learning process. Since 2014, medical students from a university in Curitiba (Brazil) have been teaching cardiopulmonary resuscitation (CPR) to the community at an undergraduate fair using simulation techniques and pop culture video clips.

**Summary of Work:** Before the event, medical students were trained by professors in hands-only CPR steps. A fun and creative music video was produced to demonstrate the CPR, with a pop song parody, starring students and professors. Throughout the 3 days of event, more than 60 medical students took turns teaching the lay public. The aim of this work is to reflect on the uses of simulators and creative resources on teaching CPR steps for lay people by medical students.

**Summary of Results:** In the five editions of the fair, over 6400 lay people were trained. Using simulators and following the music video that set the rhythm for the maneuvers, they performed simulations every 15 minutes, while monitored by the students, supervised by professors. The students reported great satisfaction in teaching and learning. They also reported greater peer-to-peer integration and improved self-confidence in communication skills.

**Discussion and Conclusions:** Teaching lay people basic life-saving skills is a challenge. Simulators and multimedia resources have been proven to be effective teaching tools in this regard. In addition, when medical students participate in health education projects, they become protagonists of their training and agents of environmental transformation. Through CPR teaching and learning practices, students become more committed, develop communication and teaching skills, and develop a better understanding of their own learning process.

**Take-home Messages:** Health education and social responsibility are essential competences for a general practitioner, and should be encouraged during the undergraduate course. Intervention practices in which students take the active role are activities that develop these competences and promote increased autonomy and integration among students, professors and the community.

## #7EE ePosters - Simulation / Virtual Patients

### 7EE12 (3254)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### Implementing a standardized UHC Simulation for medical students

#### AUTHOR(S):

- **Tatiana Zebrova, International Federation of Medical Students' Associations (Presenter)**
- Giorgia Soldà, IFMSA, Italy
- Katja Čič, IFMSA
- Omnia El Omrani, IFMSA
- Idil Kina, IFMSA

#### ABSTRACT

**Background:** The International Federation of Medical Students' Associations' (IFMSA) constantly works and builds the capacity of its members on themes related to Global Health and Health Systems; these are often addressed in order to implement broader topics such as Universal Health Coverage, also amongst IFMSA Global Priorities for 2018/19. As there was no standardized and broadly assessed activity implemented within the association addressing this topic, since January 2019 a Small Working Group has been working on realizing one.

**Summary of Work:** IFMSA has developed a standardized simulation to introduce students to the topic of UHC and the importance of fair, accessible, affordable and high-quality medical care systems. This is a fictive game inspired by other activities realized by IFMSA and other health organizations. The aim of the game is to encourage students' reflection on healthcare accessibility and to implement it in their own home countries in order to raise more awareness about UHC amongst students around the world.

**Summary of Results:** In the simulation, the participants are divided into groups with different roles and actively interact with each other. They take part in two rounds with different settings, actions and options to choose from in order to experience two possible models of healthcare systems, with examples of positive and negative aspects of them. Reading material for the facilitators and handouts for the participants have also been created.

**Discussion and Conclusions:** The activity is currently in its experimental phase. IFMSA aims to have the test phase implementation during international and national events in the period March-August 2019. The impact of the activity will be measured through the pre and post assessment form. After the experimental phase is over, the simulation will be improved accordingly and shared widely for the use of IFMSA members.

**Take-home Messages:** UHC is amongst the main challenges and goals of nowadays society: IFMSA, in the process of shaping tomorrow health leaders, aims to raise awareness on this topic and to give students the knowledge and skills for them to be the part of the global process working to reach it.

## #7EE ePosters - Simulation / Virtual Patients

### 7EE13 (115)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Foyer C, Level 2

### The AURA Study: Assessing Usefulness of Virtual Reality Mobile Application in Flexible Videoscope Airway Training

#### AUTHOR(S):

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- Zisheng Li, National University Hospital, Singapore
- Mui Teng Chua, National University Hospital, Singapore
- Win Sen Kuan, National University Hospital, Singapore
- Gene Chan, National University Hospital, Singapore

#### ABSTRACT

**Background:** Flexible videoscope orotracheal intubation (FOI) is an important management option in predicted difficult airways. There is a significant learning curve to master this complex psychomotor skill. It is rarely performed in daily practice, yet emergency physicians are expected to execute the technique expertly during a crisis scenario. Conventional teaching commonly utilises low-fidelity manikins, which lack realism of live anatomy. Virtual reality (VR) technology may enhance the learning experience. We examined the effect of incorporating VR mobile application (Airway Ex) into FOI training in emergency medicine (EM).

**Summary of Work:** We conducted a randomized (1:1) controlled trial in the Emergency Department, stratified by seniority (non-EM-trained versus EM-trained physicians). All participants underwent conventional didactic teaching and low-fidelity simulation with trainer's demonstration and hands-on practice. Participants in the intervention group received an additional 30 minutes of self-directed learning using the mobile application. Primary outcome was time taken to visualisation of the vocal cords and endotracheal tube placement (i.e. successful intubation). Manipulation skill quality of the participants was graded using a previously-validated 5-point rating scale. Trainers and assessors were blinded.

**Summary of Results:** Forty-five physicians (20 non-EM-trained and 25 EM-trained physicians) were recruited. There was no overall difference in the time taken to visualize the vocal cords (median 13 seconds [interquartile range (IQR) 9-38] versus 12 seconds [IQR 8-22],  $p=0.36$ ) and to successful intubation (median 48 seconds [IQR 41-69] versus 44 seconds [IQR 37-60],  $p=0.23$ ) in the control and intervention groups. Within the non-EM-trained strata, the intervention group took a shorter time to successful intubation (median 38.5 seconds [IQR 33-53] versus 49.5 seconds [IQR 43-62],  $p=0.09$ ), although this result did not reach statistical significance. The intervention group also received significantly higher ratings of manipulative skill quality compared to the controls (overall:  $p=0.04$ ; non-EM-trained strata:  $p<0.01$ ).

**Discussion and Conclusions:** Integrating VR technology in FOI teaching enhanced the quality of skill acquired, particularly among the non-EM-trained physicians.

**Take-home Messages:** Junior doctors are more likely to benefit from the use of virtual reality technological aids in their emergency procedural skills training.

## #7FF ePosters - Technology Enhanced Learning 1

7FF01 (288)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Nationwide implementation of the Non Invasive Prenatal Test for aneuploidy screening: Pre-post implementation evaluation of a blended learning for counselors

#### AUTHOR(S):

- **Linda Martin, Amsterdam UMC, VUmc, AVAG, The Netherlands (Presenter)**
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#### ABSTRACT

**Background:** In the Netherlands, the Non-Invasive-Prenatal-Test (NIPT) as first-tier screening for down-, edwards- or patau syndrome became nationwide available within a study context (TRIDENT-study) in April 2017. This has led to major changes in the field, including mandatory, continuing education for counselors (e.g. midwives, gynecologists, sonographers). This study explores results of the blended learning program for counselors with respect to counselors' knowledge about prenatal anomaly screening, and their educational needs.

**Summary of Work:** A blended learning for counselors comprised: a 4-hour face to face seminar, an e-learning and assessment of counselors knowledge, a training on counseling skills, counseling guideline, factsheets and a help-desk to ask questions after implementation of NIPT. Blended learning activities were offered during the study-period - between March and December 2017 - alongside NIPT implementation and still offered as continuing counselors' education. We achieved a pre-posttest cross-sectional online 35-item survey among all Dutch counselors. Multilevel regression analyses were performed to identify differences between effect of the blended-learning of counselors with different backgrounds (e.g. profession).

**Summary of Results:** Response rates were ~55% (N=1648) and ~31% (N=936) counselors respectively at first (To) and second (T1) measurement. Results indicate significantly increased knowledge between To and T1 (CI 95% 0.6-2.0); more than 75% of the counselors answered 16 versus 21 of 35 knowledge questions correctly respectively. Both at To and T1, gynecologists and sonographers answered more questions correctly than midwives. At T1, more than half of the counselors reported to have no additional educational needs. The top three of counselors' educational needs comprised general communication skills, counseling dilemma's, and knowledge about test-characteristics and test-results other than down-, edwards- or patau syndrome.

**Discussion and Conclusions:** The mandatory blended learning for counselors resulted in increasing knowledge about prenatal anomaly screening. However, improvement of counselors' knowledge is needed in some specific areas such as NIPT test characteristics, and findings other than down-, edwards- or patau syndrome. After the blended learning, counselors' educational needs mirrored these conclusions.

**Take-home Messages:** A mandatory blended learning for professionals alongside healthcare- implementations seems useful to improve knowledge and perceived competence. Although up to date (online) educational information resources are available, continuing face-to-face trainings seems even more valuable given counselors' needs for training of counseling skills.

## #7FF ePosters - Technology Enhanced Learning 1

### 7FF02 (409)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Application of Face-to-Face Education and Online Courses on Palliative Care Education by Using Multimedia Teaching Materials

#### AUTHOR(S):

- Shao-Yu Hsu, Taipei City Hospital, Taiwan (Presenter)
- Sheng-Jean Huang, Taipei City Hospital, Taiwan
- Li-Lin Kuo, Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** Taipei City Hospital(TCH)has provided home-based palliative care by interdisciplinary health care professionals since 2015. TCH held training courses, such as OSCE, role-play based immersive courses, multimedia teaching courses, online courses, to enhance professional-patient communications and improve palliative care quality. This study aims to explore the effectiveness of using multimedia teaching materials in palliative care education between face-to-face education and online courses.

**Summary of Work:** We made two multimedia teaching materials with different learning objectives('Home-based Palliative Care at the EOL Phase' and 'Withdrawal of Life-Sustaining Treatment'), which were based on real stories. Case-based discussion education was conduct with the video by teaching attending physician and questionnaires were collected from the trainees after watching the video in face-to-face education. Furthermore, we also uploaded the multimedia teaching materials and questionnaires on E-learning platform, so that more health care professionals can learn by themselves during their free time. The questionnaires can be divided into four categories including the cognitive (self-competence), the experiential (emotional responses and self-referencing) and further intentions to provide home-based palliative care.

**Summary of Results:** Compared with face-to-face education, both videos have higher significant difference on trainees' self-competence by online courses ( $p=.015$ ,  $p=.000$ , respectively). Compared with online courses, both videos have a significant difference in trainees' emotional responses ( $p=.004$ ,  $p=.018$ , respectively) and further intentions to provide home-based palliative care( $p=.000$ ,  $p=.000$ , respectively) through face-to-face education. However, there was no significant difference between trainees' self-referencing ( $p=.377$ ,  $p=.735$ , respectively).

**Discussion and Conclusions:** This study shows that both multimedia teaching materials apply in palliative care education through face-to-face education and online courses have the same results. The trainees will reply to their self-referencing according to their real experiences. By watching multimedia teaching materials on E-learning platform, we consider that the trainees were self-complacent and can't trigger their emotional responses. Moreover, it also can't enhance their further intentions. On the contrary, through face-to-face education we consider the teaching attending physician plays an important role in the courses, that can influence trainees' emotional responses and further intentions to provide home-based palliative care through applying case-based discussion.

**Take-home Messages:** Education training in palliative care can be more effective by holding face-to-face training courses.



## #7FF ePosters - Technology Enhanced Learning 1

7FF03 (845)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Using blended teaching methods to improve nursing staff cognition, affection, and skill of HSCT care in hematology unit

#### AUTHOR(S):

- Yen-Ni Sung, Taipei Veterans General Hospital, Taiwan (Presenter)
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- Pei-Yu Liu, Taipei Veterans General Hospital, Taiwan
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#### ABSTRACT

**Background:** In Taiwan, hematopoietic stem cell transplantation (HSCT) has been an important therapy to blood malignancies patients. There are 28% (n=17) Nursing Staff Post Graduate Year (NPGY) in our department in a medical center. Due to clinical observations, these new caregivers offered incomplete or incomprehensible care to pre-transplant patients.

**Summary of Work:** A self-designed Learning Needs Questionnaire was conducted to 17 NPGY. It showed over 58.8% NPGY thought that HSCT care was the hardest medical procedures. A total of 16 (94.1%) considered personal demonstration, verbal teaching (41.1%) and 'textbook (41.1%) made NPGY learn faster. A pre-test of HSCT care comprehensive questionnaire was administered to them, including cognition, affection and skills. Combining above results, a workshop was held. 17 NPGY were asked to watch a 19-min self-made teaching video before the workshop. In the 110-minute class, NPGY was assigned to two groups, they engaged in team-based learning activities such as group discussion and giving feedback, with Visiting Staff, nursing preceptors and social workers. Besides, demonstration technique of stem cell transfusion was done by a senior HSCT nurse. After workshop, they submitted a feedback questionnaire.

**Summary of Results:** The results from post-test questionnaires showed 1. An average cognition score increasing 16.8, 2. NPGY was able to perform HSCT care skills, and 3. They expressed the confidence that they could care for patients with HSCT. Furthermore, the flipped learning skill, self-made teaching video, team-based learning, and interdisciplinary cooperation teaching made all NPGY satisfied with the workshop.

**Discussion and Conclusions:** Compared to the pre-test, the score on conditioning regimen showed relatively lower scores (7.7). Exploring the reason may be more complicated for the chemotherapy protocols. Thus, NPGY were encouraged to watch the video and memorize continually after the workshop to enhance the understanding.

**Take-home Messages:** These teaching activities will continued to be held for new nurses. It can also be extended to nurses of other non-hematologic oncology wards such as pediatric oncology.

## #7FF ePosters - Technology Enhanced Learning 1

**7FF04 (907)**

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### The Effectiveness of using Interactive E-book on nurses' learning motivation and knowledge of electrocardiogram interpretation

#### AUTHOR(S):

- Chien-Lin Kuo, National Taipei University of Nursing and Health Sciences, Taiwan (Presenter)
- Chien-Sheng Lin, Cheng Hsin Hospital, Taiwan
- Su-Fen Cheng, National Taipei University of Nursing and Health Sciences, Taiwan
- Ming-Zhong Li, National Taipei University of Nursing and Health Sciences, Taiwan

#### ABSTRACT

**Background:** Healthcare professionals are expected to have current knowledge of advanced cardiac life support (ACLS) to revive patients suffering cardiac arrest. The majority of the ACLS course consisted of didactic lecture with little student participation. In ACLS course, electrocardiograms (ECG) interpretation is often the most difficult part for nursing students and newly graduates. Electronic book (e-book) technologies have been shown to improve learning with the features of portability and efficiency. The purpose of this study was to evaluate the learning effects of using interactive e-books on nurses' ECG interpretation.

**Summary of Work:** This study used quasi-experiment research design. A purposive sample of 120 nurses in ACLS classes was assigned to the experimental group and the control group. In the unit of ECG interpretation, the experimental group went through the interactive e-book, while the control group received traditional PowerPoint lecture. The learning motivation and ECG knowledge were measured at three time points by questionnaires. After the class, a focus group interview was conducted to explore the learning experiences of learners.

**Summary of Results:** A paired t test indicated that posttest mean score of ECG knowledge and learning motivation was higher in both groups. The tutoring by using e-books or traditional lecture made no significant difference to the ECG knowledge. However, the experimental group reported higher level of learning motivation, compared with the control group. Moreover, the learners held positive attitudes towards the interactive e-book. They valued its features of motion graphs, sounds, notes, and quizzing which are helpful for their comprehension and memorizing.

**Discussion and Conclusions:** The interactive e-book not only increased nurses' ECG knowledge, but also improved their learning motivation. The learners were satisfied with the e-book and expressed it aroused their learning interests and guided self-learning. A well-designed interactive e-book could be used as an effective teaching tool to achieve a better individualized learning for nurses. The results could provide a reference for integrating information technology to ACLS training.

**Take-home Messages:** Interactive e-book can support mobile individualized learning. The well-designed e-books are effective tools in support of the classroom instruction in ACLS training.

## #7FF ePosters - Technology Enhanced Learning 1

7FF05 (1006)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### An evaluation of a case-based e-learning module on non-accidental injury for medical students

#### AUTHOR(S):

- Niamh Ryan, University of Dundee, UK (Presenter)
- David Sadler, University of Dundee, UK

#### ABSTRACT

**Background:** Non-accidental injury (NAI) is an important paediatric issue with many harmful medical and psychological consequences. Although early identification may prevent these outcomes, cases are regularly missed by clinicians, often due to inadequate training. Improvements in NAI education in medical schools are essential to tackling this. E-learning is a well-established teaching method that is effective in many areas of medicine but there have been few studies in the field of NAI.

**Summary of Work:** An interactive, case-based e-learning module was designed for medical students, focusing on recognition and management of NAI in various clinical situations. It incorporates case-based scenarios, formative assessment and clinical photos of suspicious injuries. To determine its effectiveness, medical students were asked to complete the module, as well as pre- and post-module tests, each with questions on injury knowledge, recognition of NAI and management of NAI. Scores were analysed using t-testing, ANOVA, univariate and multivariate analyses.

**Summary of Results:** There was a statistically significant increase in mean score between the pre- (23.37/32) and post-module (25.55/32) tests. Mean recognition (77.63% to 85.84%) and management score (54.07% to 92.83%) also increased. Rather surprisingly, there was a decrease in injury knowledge score (79.91% to 60.37%). On multivariate analysis, various factors were found to be predictive of pre-module score, including year of study, previous identification of NAI, previous child protection training and confidence in identifying NAI. Factors found to be predictive of the change in score after module completion were previous training, year of study and previous identification of NAI.

**Discussion and Conclusions:** Case-based e-learning appears to effectively teach medical students how to recognise and manage NAI. It seems to be most useful in teaching topics related to clinical reasoning rather than theoretical knowledge. There was most benefit for students in lower years of study, who are likely to have less previous knowledge than those in higher years. Interestingly, those with previous child protection training also benefited more than those without. Further research is required to establish how it can be adapted to suit different students and to better teach knowledge of injuries.

**Take-home Messages:** Case-based e-learning is most effective in teaching areas of NAI focusing on clinical reasoning rather than theoretical knowledge.

## #7FF ePosters - Technology Enhanced Learning 1

7FF06 (1035)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Stronger together - Virtual University of Occupational Health Care supports specialist physician training

#### AUTHOR(S):

- Lena Selänne, University of Helsinki, Finland (Presenter)
- Heidi Furu, University of Helsinki, Finland
- Heli Koivisto, University of Oulu, Finland
- Heli Parviainen, Tampere University, Finland
- Marianne Rytönen, University of Eastern Finland, Finland

#### ABSTRACT

**Background:** The Virtual university of occupational health care is a collaboration network of five Finnish universities which offers education to physicians specializing in occupational health care and their specialist physicians trainers. It offers annually nearly 50 online and onsite courses and seminars. For a small and rare inhabited country like Finland and rather small university units of occupational health, the Virtual university has taken a crucial role in the training of specialists and supporting the trainers both pedagogically and substance-wise.

**Summary of Work:** To develop our processes, we conducted a questionnaire survey in 2018 for specializing physicians and their trainers. The aim of the survey was to get feedback on the activities in Virtual university, and especially whether students prefer onsite or online participation, and how trainers use the Virtual university with their specialist physicians.

**Summary of Results:** The survey received 102 responses. Three quarters of the respondents had attended courses within the Virtual university and majority of them were pleased with them. Both onsite and online education were desired and many appreciated the possibility to participate in live education online. On the contrary to the previous survey in 2014, the participants did not report lacking IT skills. Trainers have also found the Virtual university useful: most of them (73%) had used its materials in guidance. Trainers reviewed courses together with specialist physicians and used the content in planning guidance meetings.

**Discussion and Conclusions:** The respondents highlighted the satisfaction with the Virtual university: the contents of the training were mentioned as high quality and versatile. Online training was also seen to save resources (time and money) available for training. In addition to online teaching, personal guidance and regional training were regarded important as well. Based on the answers, we will organize the training further in a multifaceted way: online, local meetings, guided and self-study courses.

**Take-home Messages:** Stronger together - Finnish universities offer specialist physician training open-minded and virtually at the Virtual University of Occupational Health Care. The survey encourages training units to offer training both online and locally.

## #7FF ePosters - Technology Enhanced Learning 1

**7FF07** (1049)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### All in the Mix: The Use of Blended Learning for Trainee Anaesthetists

#### AUTHOR(S):

- David Marriott, University Hospitals of Leicester, UK (Presenter)
- Andrew Hughes, University Hospitals of Leicester, UK
- Abigail Fell, University Hospitals of Leicester, UK

#### ABSTRACT

**Background:** Blended learning utilises both traditional methods, such as lectures and seminars, and technology enhanced learning (TEL) solutions, such as video sharing, virtual learning environments and smart phone applications, to enable innovative teaching and learning that is not limited to geographical location. We explored how freely available technologies could be used to aid learning for trainee anaesthetists and how to best integrate them into traditional teaching practices.

**Summary of Work:** Resources were created specifically for the trainee anaesthetist including videos discussing an 'Anaesthetic Machine Check', 'Rapid Sequence Induction' and 'Securing the Paediatric Endotracheal Tube'. A Google Sites webpage linked to these resources was disseminated to learners via local trainee induction, workplace handbooks and QR codes. Local trainees also now complete a 1-day course exploring metacognition and learning strategies which includes an evaluation use of different approaches to learning, both traditional and TEL e.g. podcasts, videos, online learning packages and education articles. This enables candidates to appraise available resources for learning value.

**Summary of Results:** To date, the 'Anaesthesia Machine Check' video has been watched 13,700, 'Rapid Sequence Induction' 17,200 and 'Securing the Paediatric Endotracheal Tube' 800 times from learners in the UK, USA, Australia, Phillipines and Saudi Arabia. The Primary FRCA 1-day course has been delivered twice with positive feedback.

**Discussion and Conclusions:** The degree of utilisation, and global viewership, of our online resources has surprised us. The use of TEL is an effective education tool and our use of freely available technologies enables us to communicate complex principles to a wide audience. We have developed our local teaching events to incorporate not only TEL resources, but information to enable learners to make informed decisions about those resources in relation to their own learning. We are now beginning to objectively evaluate the efficacy of TEL and blended learning implementation locally. This will include success rates for formal assessments and faculty experience.

**Take-home Messages:** The use of freely available curated resources enables TEL to complement traditional teaching via use of videos, QR codes and online learning packages. Learners should be aware of pitfalls and benefits of TEL.



## #7FF ePosters - Technology Enhanced Learning 1

**7FF08** (2142)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### On-line learning improves contouring skills in radiotherapy. An ESTRO-FALCON-IAEA study

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Modern radiotherapy suffers from heterogeneity in defining target volumes (TV) and organs at risk (OAR) having a major impact on patient outcome. Interactive online learning has shown to reduce this heterogeneity immediately but the long-term effect is unknown. The aim of the present multicenter study was to evaluate the short- and long-term impact of online learning on heterogeneity in radiotherapy volume definition in centers from low- and middle-income countries (LMIC)

**Summary of Work:** Radiation Oncologists (RO) from 14 centers in 13 countries participated in an online learning program involving 3 tumor locations: head and neck, lung and cervix. Four delineations of TV and OAR per tumor site were asked to the participating RO in the FALCON-EduCase online system: one before the teaching period, two during the teaching period (at one week and one month) and finally a fourth six months after the teaching period. In total 4 delineations for each of the 3 cases were done over a period of one year. Participants were blind to the DICE index and pre-defined qualitative measures used as endpoints.

**Summary of Results:** Compliance to the whole program was >50% among the 60 RO. The majority (88%) used 3D radiotherapy routinely. For the head and neck part, significant increases were seen in homogeneity of contouring for both TV and OAR. DICE increased immediately during the teaching sessions and remained high six months after teaching ( $p < 0.0001$  for the elective CTV and right parotid gland). Lung delineations showed the same trend towards an increase in DICE index for GTV primary tumor ( $p = 0.0003$ ). For the cervical cancer part, significant increases were also seen in homogeneity of contouring for both TV and OAR except for sigmoid colon.

**Discussion and Conclusions:** Online teaching in LMIC seems feasible with an acceptable compliance to the learning program. The learning obtained on a short-term basis was shown to be sustainable one and six months after teaching but the benefit might decrease over time suggesting the need for continuous medical education in the field of contouring.

**Take-home Messages:** Online learning significantly improves the delineation skills of radiation oncologists in different tumor locations, which is considered a key point in multidisciplinary cancer treatment.

## #7FF ePosters - Technology Enhanced Learning 1

7FF09 (2279)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Undergraduate and residency integration mediated by telemedicine: An experience of the surgery and psychiatry units

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Brazil is a continental country and according to the World Health Organization, it should invest in telemedicine and remote care to optimize health care. The Brazilian health system is unique consisting in primary, secondary and tertiary levels of care. The Rio Grande do Norte Federal University is the main scenario for health area education from undergraduate to postgraduate. Many patients are referred to high complexity level of care not ready for surgery or without surgical treatment need, nor psychiatric hospitalization, causing disorder in peoples lives and re-routing for correction of complementary exams for example. The purpose of this paper is to describe the integration of undergraduate and postgraduate courses mediated by the teleregulation of referenced cases to the tertiary hospital

**Summary of Work:** Bariatric surgery and psychiatry service, has the remote regulation requested by nurses, psychologists, doctors, nutritionists among other professionals. The presence of students (undergraduates or residents) with the regulation and care of these cases generates knowledge, skills and medical attitudes. Unlike the other Brazilian locations, telecardiology was not the starting point due to problems with integration of the local public health system.

**Summary of Results:** The Bariatric surgery had 1252 teleconsultations, being 131 of them including surgeries in 2018, with 100% of patients undergoing bariatric surgery in the teaching hospital with residents who have had the regulation made by telemedicine, internet and message texts or images. Psychiatry with more than 500 teleconsultations, helped family doctors with complex cases, avoiding inappropriate referrals and hospitalizations, reassuring the primary care as a cornerstone of the process of healthcare.

**Discussion and Conclusions:** These processes are based on confidentiality, privacy and competence of the experts involved though data security still an issue, and is where a robust and secure telemedicine system would be handfull. Telemedicine can be a point of integration of research and teaching in health care in both surgery and psychiatry.

**Take-home Messages:** Telemedicine can provide a great challenge in training, and if it is coordinated by an expert in the field, helping to integrate health education and care.

## #7FF ePosters - Technology Enhanced Learning 1

**7FF10 (2286)**

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Blended learning: Students' Perception and Impact of Formative Assessment on Blackboard on the Final Marks in Endocrine Module

#### AUTHOR(S):

- Mukhtiar Baig, Faculty of Medicine, Rabigh, King Abdulaziz University, Jeddah, Saudi Arabia (Presenter)
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#### ABSTRACT

**Background:** To explore the medical students' perception regarding the use of Blackboard (Bb) and determine the impact of formative assessment on Bb on the final score in the endocrine module.

**Summary of Work:** This cross-sectional study was carried out at the Faculty of Medicine, Rabigh, King Abdulaziz University, Jeddah and three years data was collected in the endocrine module. The study guide, timetable, lecture PowerPoint slides, reference materials, and several questions in the discussion board were posted in the endocrine module. Several options of the BB such as discussion board, instant feedback, announcement, grade book, and tests and quizzes were used for the third-year medical students. In the last week of the module before the final exam, a formative assessment test comprised of 50 MCQs was posted on Bb each year then after the final exam, the impact of formative assessment was determined on the final marks in the module exam. All the students filled a questionnaire regarding their perception about the use of Bb. The ethical committee of the Faculty of Medicine, Rabigh, KAU, Jeddah approved this study.

**Summary of Results:** Overall, final exam scores were significantly higher as compared to the formative assessment ( $p < 0.001$ ). Majority of the students' responded with agree and strongly agree for the use of Bb in the endocrine module as computers based assessment is easier than paper-pencil test, E-assessment enhanced my learning, I have no problem accessing Bb from home, I feel more comfortable posting my opinions on the discussion board rather than to speak up in class, I like the idea of having online exams, quizzes, class activities, using online learning tool has improved my technical skills, I become more confident in expressing my ideas using communication technologies such as email, chat, and discussion forum, and I am satisfied with the use of Bb in this module.

**Discussion and Conclusions:** The majority of the students liked this blended learning method, and the formative online assessment on Bb improved the students' performance in the final exam.

**Take-home Messages:** Blended learning is a better option as compared to traditional methods.

## #7FF ePosters - Technology Enhanced Learning 1

7FF11 (2320)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Virtual On-call Teaching Programme: A Practical Implementation

#### AUTHOR(S):

- **Byron Lu Morrell, East Kent Hospital University NHS Foundation Trust, UK (Presenter)**
- Jackson Pat, East Kent Hospitals University NHS Foundation Trust, UK
- Robert O'Loughlin, Guys and St Thomas NHS Foundation Trust, UK
- Ashok Chhabra, East Kent Hospitals University NHS Foundation Trust, UK

#### ABSTRACT

**Background:** The medical ward cover on-call is often considered a daunting and stressful experience for the foundation year one junior doctor (FY1). Unfortunately, medical students frequently report feeling under-prepared for work as a junior doctor. 'Virtual on-call (VOC)' is a low-fidelity simulation-based teaching programme that has gained popularity across UK teaching hospitals in recent years. Despite this, no medical school in the UK appears to have integrated it in its undergraduate curriculum.

**Summary of Work:** We designed, wrote and published a VOC programme teaching pack as a step-by-step guide to allow doctors to establish and run the programme at their hospital. Each session consists of a briefing, simulation on-call where students hold a live pager via which they receive tasks to act on, followed by a mock handover and debrief. Data were collected between May- Dec 2018 using a standardised questionnaire. Students self-scored pre- and post-simulation confidence levels on a 1-5 Likert scale across a range of non-clinical skills.

**Summary of Results:** Over a 6-month period, 58 students participated in 22 sessions of our VOC programme, with a final uptake of 70%. 21 junior doctors volunteered their time to help facilitate sessions. Our findings show that the greatest improvement was seen in confidence undertaking an FY1 ward cover on-call shift (mean difference +1.50, 95% CI 1.30-1.70;  $p < 0.0001$ ), as well as a range of other non-clinical skills. Sessions were rated well for the high quality of scenarios, organisation, and quality of feedback. 100% of students would recommend the programme to fellow final year students.

**Discussion and Conclusions:** Our data shows that our virtual on-call programme enhances self-confidence across a wide range of non-clinical skills, and promotes preparedness of final year medical students in undertaking a ward cover on-call shift as an FY1. Facilitating doctors improve their teaching skills by providing 1-1 feedback, develop their leadership skills by acting up and further their clinical knowledge by writing scenarios.

**Take-home Messages:** Virtual on call: 1) Represents a form of medical simulation teaching which is high-yield, low-cost, and easy to implement. 2) Promotes a smoother transition of medical students to working as junior doctors. Therefore, it should be integrated into the medical school undergraduate curriculum.

## #7FF ePosters - Technology Enhanced Learning 1

7FF12 (2427)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### Predictors of student retention in postgraduate online learning environment

#### AUTHOR(S):

- Nazmul Karim, Monash University, Australia (Presenter)
- Basia Diug, Monash University, Australia
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#### ABSTRACT

**Background:** In recent decades there has been a shift in the background of students in higher education in terms of age, gender, socioeconomic status, and experience. This cohort has now been shaped by students who are older and working while studying. This shift comes with challenges that burden the learner, such as how to balance a study committee with work and familial expectations. Although online learning is viewed as offering a flexible learning environment to cater to these kinds of work and life commitments, the discontinuation rate is quite high. Our study aims to explore the predictors of postgraduate student retention in the online learning environment.

**Summary of Work:** We analyzed 510 data of students enrolled, during 2014 and 2018, in two online Masters Courses to assess the factors predictive of student retention toward course completion. Odds ratio and 95% CI were generated employing multivariable logistic regression analyses adjusting for plausible confounders.

**Summary of Results:** The majority of students (73%) enrolled in the courses were female and 62.2% completed their course without failing a unit. Students who failed in  $\geq 1$  of enrolled units were more likely to discontinue from the course (OR-2.53; 95%CI: 1.21-5.29), however, odds of discontinuation was significantly less among students who successfully completed a quarter of the required units (OR-0.03; 95%CI: 0.02-0.06). Intermission in a previous unit did not decrease the odds of discontinuation (OR-2.53; 95%CI: 1.43-4.89).

**Discussion and Conclusions:** Student performance and learning experience in the initial units is a driving factor for student's retention in the online learning environment. Flexibility in spacing between teaching periods, in terms of skipping a teaching period, has been viewed in some research to help students keep the balance between work and study; however, in our study ability to intermit did not seem to help the student continuing to study. Further research in this regard is needed to explore the precise dynamics of student retention.

**Take-home Messages:** For online learning to be successful efforts should be taken to make initial learning experience be successful and pleasant, which will significantly reduce the dropout of the student and increase retention in the online learning environment.



## #7FF ePosters - Technology Enhanced Learning 1

7FF13 (2691)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### How to Jump from Conventional to Modern e-Learning System Without Having “Wounds”. A Student Point of View

#### AUTHOR(S):

- Andrei Dragos Cumpanas, Victor Babes University of Medicine and Pharmacy, Timisoara, Romania (Presenter)

#### ABSTRACT

**Background:** In 1450s, in Mainz, Germany, Gutenberg printed a book, an object that nowadays we find normal, but back in time was looked with skepticism. He started a revolution. A BIG jump. It wasn't without wounds, as no big jump ever is. 560s years later, we find ourselves in front of a BIG challenge. On one side there is a conventional learning, and it seems that on the other side there is E-learning. Virtually they are on the same side.

**Summary of Work:** Histology is a beautiful subject, but it is by far not easy. Imagine staying in front of a microscope, looking at a slide, knowing all the theory of what you should see. However, translating theoretical into practical knowledge is not that simple, especially for students. In comparison, close your eyes for a minute and imagine that you find yourself in an ultramodern computer room, where your teacher can show you and all your 40+ colleagues the same histological slide at the same time, making sure that you will never miss that cell or structure ever again.

**Summary of Results:** And how could you not love this way of teaching when the possibilities are endless. An extremely modern electronic system for a tech-loving generation. High resolution images that let you see far beyond optic microscopy. Time efficiency. Debate-like classes with tons of engaged learners. Creativity. Turning a simple, boring classroom into a rollercoaster ride where you arent just a passive listener, but you are actually an active part of the learning process. In addition, as you go home, you can access an Internet page where you can review all the slides and information presented in class over and over again until you are comfortable with the subject.

**Discussion and Conclusions:** The abyss was big and taunting, but the hard work definitely paid off. We can do this at our own rhythm, our own pace, our own studying environment.

**Take-home Messages:** Why not turn your class into an E-class where 'E' doesnt just mean electronic, but also Exciting-Engaged learning?

## #7FF ePosters - Technology Enhanced Learning 1

7FF14 (2796)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Crystal Lounge, Level 1

### E-learning attitudes and perspectives of medical students at Chulalongkorn University

#### AUTHOR(S):

- Chatuthanai Savigamin, Faculty of Medicine, Chulalongkorn University, Thailand (Presenter)
- Nattapat Anuduang, Faculty of Medicine, Chulalongkorn University, Thailand
- Natcha Anantakool, Faculty of Medicine, Chulalongkorn University, Thailand
- Sittisak Honsawek, Faculty of Medicine, Chulalongkorn University, Thailand

#### ABSTRACT

**Background:** This study aimed to evaluate medical students perception of the attitude and effectiveness of an e-learning resource developed to enhance the acquisition of traditional lecture-based learning.

**Summary of Work:** We designed a descriptive cross-sectional study of Thai first year medical students, using an online survey. Participants were 249 medical students completing their first semester of first year medical students as part of a six-year degree at the Faculty of Medicine, Chulalongkorn University. Participants completed a 25-question anonymous online survey after using the E-learning resource.

**Summary of Results:** Descriptive cross-sectional study showed that the most important objective for E-learning of the students was to be able to catch up to their learning in conventional classrooms (59.4%). The most common E-learning problem of the students is repetitive behavior of watching (49.2%) and self-control in their learning (37.3%). 93% of the students strongly agreed that E-learning was essential for reviewing their notes after class. 61.4% of the students disagreed that E-learning could discourage professor's intention to teach (34.5% is Strongly disagree, 26.9% is disagree). E-learning could accommodate the learner's need in traditional learning because of timing preference (66.7%), flexibility and convenience (80.3%), ease of access (71.5%), respectively. 43.4% of the students strongly agreed that E-learning made them more focus on the learning materials. 64.2% of the students strongly disagreed that E-learning could substitute the conventional learning. Our study suggested that minimum attendant in the class and attendant score could motivate students to participate in the classroom. Traditional one-way lecture should be reconsidered and transformed to other teaching methods.

**Discussion and Conclusions:** This study supports that the e-learning resource could be useful and effective. The combination of lectures with E-learning would be more beneficial than conventional lecture alone. E-learning should be further utilized in a blended learning environment to support face-to-face teaching in the class.

**Take-home Messages:** E-learning emerges as a viable alternative to supplement and support conventional lecture-based learning for medical students. Preference of E-learning's medical students could be used to transform the E-learning system for a better enhancement of medical student training.

## #7GG Posters - Faculty Development

### 7GG01 (79)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A Model Workshop for Writing Systematic Review Protocols at Teaching Hospitals: The Final Report

#### AUTHOR(S):

- Yuki Kataoka, Hyogo Prefectural Amagasaki General Medical Center, Japan (Presenter)
- Hiraku Tsujimoto, Hyogo Prefectural Amagasaki General Medical Center, Japan
- Masahiro Bannno, Seichiry Hospital, Japan
- Yasushi Tsujimoto, Kyoritsu Hospital, Japan

#### ABSTRACT

**Background:** Systematic reviews (SR) play an important part of the five steps of evidence-based medicine. However, medical practitioners in Japan are unfamiliar with them because of the lack of undergraduate education. A workshop for creating systematic reviews is not common at teaching hospitals in Japan. The purpose of our project was to develop a model workshop for participants to acquire skills in creating high quality protocols of systematic reviews based on their clinical questions.

**Summary of Work:** We used an action research method to create this workshop and implemented it at nine teaching hospitals in Japan. The main participants were multi-occupation health care workers at each site. At first, two hospital doctors who had prior experience with systematic reviews gave interactive consecutive lectures, and by the end, four doctors were acting as instructors. To improve the program, we solicited reflection using participant questionnaires for each lecture and examined the quality of homework submitted by participants after each lecture.

**Summary of Results:** The project ran from April 2015 to Mar 2018. We developed a movie lecture series (<http://urx2.nu/OsCb>). The final program consisted of one offline and seven online flipped classrooms, which were used to write a part of protocol, as well as one off-line protocol presentation meeting by participants after six months. By using a flipped classroom, a web form, and an online conference system, four instructors were able to handle up to 64 participants. A total of 209 participants produced 414 research questions after the first session. Seventy-nine participants (38%) completed the workshop. They wrote 47 protocols adhering to Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols, which is a reporting guideline of systematic review protocol. With instructors' help, they published three peer-reviewed articles and registered five Cochrane Review titles by December, 2018. One participant became a workshop instructor.

**Discussion and Conclusions:** We developed a model workshop for health care workers to conduct systematic reviews. Participants who completed the workshop acquired skills in creating systematic review protocols. Further research to improve participant motivation is necessary.

**Take-home Messages:** Clinician educators could use this labor-saving workshop for teaching health care workers how to write systematic review protocols.

## #7GG Posters - Faculty Development

### 7GG02 (470)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Social Factors in Clinical Teachers' Learning into Practice Following Faculty Development Programs

#### AUTHOR(S):

- Szu-Han Wang, Chang Gung Memorial Hospital, Linkou Branch, Taiwan (Presenter)
- Ming-Ju Hsieh, Chang Gung Memorial Hospital, Linkou Branch, Taiwan
- Yin-Yu Chen, Chang Gung University, Taiwan
- Kou-Su Chen, Chang Gung Memorial Hospital, Linkou Branch, Taiwan
- Hui-Ling Lin, Chang Gung Memorial Hospital, Linkou Branch, Taiwan

#### ABSTRACT

**Background:** Faculty development is an essential component of every medical education institution. Although some clinical teachers translate their learning into practice, this is not always the case. This study aims to understand why learning does not always translate into practice using qualitative methodology underpinned by social cognitive self-regulation theory.

**Summary of Work:** One-to-one and group interviews were conducted with n=15 clinical teachers (medical doctors) from single medical center in Taiwan. All participants had previously engaged in at least one faculty development program. Data analysis was undertaken using thematic analysis: themes were developed inductively from the data and deductively using self-regulation theory.

**Summary of Results:** Our findings suggest that several social factors impact clinical teachers' translating learning into practice, including cultural differences, difficulties in feedback-giving and low-motivation. In terms of teachers' authority, the Confucianism culture in which the study was undertaken appeared to increase individuals' resistance to change, thus influencing feedback-giving.

**Discussion and Conclusions:** Our analysis identified that clinical teachers are highly impacted by social factors. Participants rarely gave feedback and failed to seek help when facing teaching problems. Often this was due to issues around cultural stigma relating to self-disclosure. Seeking new teaching methods was rare, reflecting that most participants were low-mastery-goal-oriented. Our research had found several social factors' influencing clinical teachers' willingness or ability to translate their learning into practice. Sometimes clinical teachers rarely give feedback and do not seek help when facing teaching problems due to cultural stigma relating to self-disclosure. Therefore, we suggest educational encounters adopt a tailored approach.

**Take-home Messages:** Several social factors impacted on how clinical teachers translated their learning into practice, including cultural differences, difficulties in feedback giving and absence of motivation. Sometimes clinical teachers rarely give feedback and do not seek help when facing teaching problems due to cultural stigmas relating to self-disclosure.

## #7GG Posters - Faculty Development

### 7GG03 (1599)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Impact of a teacher training program for health careers in the context of the implementation of the simulation hospital in San Sebastian University

#### AUTHOR(S):

- Roxana Buscaglione, Universidad San Sebastián, Chile (Presenter)
- Marlova Silva, Universidad San Sebastian, Chile

#### ABSTRACT

**Background:** The Simulation Hospitals of San Sebastian University includes 4 campus and 14.300. The mission is to guarantee quality education through implementation of education based on simulation. In the initial phase a faculty development project was developed for all teachers that wanted to improve their performance in the simulation area. Three courses coourses were implemented in January 2017: Objective structured clinical examination, Standardized patient and Simulation instructor. The purpose of this project was to evaluate the transfer or level 3 of Kirkpatrick of this teacher training program.

**Summary of Work:** A cross-sectional study was carried out. An online Question PRO survey was applied to the total of 126 professors who made at least one of the courses. Survey was anonymous, asked their consent and was sended to their emails in May 2018. Mainly a Likert scale evaluates their perception of knowledge adquisition plus a pre/post section regarding skills acquired and if they are actually implementing what they've learned.

**Summary of Results:** From 126 teachers that took at least one of the courses 67% answered online survey. 9% teachers no longer work there and a 4% of lost. The average age was 40 years. 97% agreed or completely agreed that their participation in the courses allowed them to incorporate clinical simulation in their programs. A 34% completed the OSCE course and 94% of them are currently designing and implementing OSCE. A 96% indicate that they moderatly or completely agree that their participation in this training program helped to improved their overall performance as a teacher today.

**Discussion and Conclusions:** Teacher training is related to professional development in terms of increasing skills of those who are teaching in the fields, but also is an nstitutional value because it has the ability to mobilize in resources teaching innovation. To evaluate the quality of their activities is matter of future research.

**Take-home Messages:** Permanent evaluation of our work, as it is the present study seeks to enhance the teaching skills as part of the institutional commitment not only with the scholarship but the contribution to education based on clinical simulation.



## #7GG Posters - Faculty Development

### 7GG04 (3019)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Faculty Development Activities for Biomedical Educators at Avalon University School of Medicine (AUSOM)

#### AUTHOR(S):

- Sateesh Babu Arja, Avalon University School of Medicine, Netherlands Antilles (Presenter)
- Sireesha Bala Arja, Avalon University School of Medicine, Netherlands Antilles
- Abraham Ratna Joseph Nayakanti, Avalon University School of Medicine, Netherlands Antilles
- Kumar Ponnusamy, Avalon University School of Medicine, Netherlands Antilles
- Simi Paramban, NMC Royal Womens Hospital, UAE

#### ABSTRACT

**Background:** The term continuing professional development encompasses competencies required to practice high-quality medicine including medical, ethical, managerial, personal, and social skills whereas continuing medical education refers to skills required to practice as a physician. The academic competencies for medical faculty include leadership, administration, teaching, curriculum development, and research. This study is intended to measure the outcomes of faculty development activities at AUSOM.

**Summary of Work:** At AUSOM, we took twelve biomedical educators as a unit and recruited them for different faculty development activities since 2015. Nine faculty members were enrolled and completed the ESME course offered by AMEE. Three faculty members enrolled and completed the ESME-assessments course offered by AMEE. Three faculty members enrolled and completed leadership course offered by AMEE. Additionally, one faculty member was enrolled in Masters in Health Professions Education, and he did workshops for other faculty members on Miller's learning Pyramid, Bloom's taxonomy, formative and summative assessment methods, blueprinting, MCQs item analysis, and standardized examination procedures.

**Summary of Results:** Faculties were able to apply the knowledge in their teaching practices. They were actively involved in curriculum development. The faculties implemented different types of teaching methods including small group discussions, PBL, and flipped classroom. They implemented different assessment methods. Faculty applied these principles in daily practice, but also they were able to write reflectively and apply to different fellowships. Five out of twelve faculties (40%) received the fellowship from Academy of Medical Educators. Two faculties received the associate fellowship offered by AMEE. One faculty member received the fellowship from higher education academy, UK and another faculty member received a senior fellowship from the higher education academy.

**Discussion and Conclusions:** Faculty development activities are rewarding, and the institutions should be ready to invest in such activities. Faculty should buy-in their time and participate in faculty development activities.

**Take-home Messages:** • The educational institution should be ready to invest resources in faculty development activities including teaching and assessment methods. • Faculty's time and readiness to involve in professional development activities is the critical factor for faculty development. • For larger institutions, the head of the department or chair of the department can take the responsibility and lead the faculty development activities.

## #7GG Posters - Faculty Development

### 7GG05 (1894)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluating a top-class in medical teaching

#### AUTHOR(S):

- **Marjel van Dam, UMC Utrecht, The Netherlands (Presenter)**
- Gönül Dilaver, UMC Utrecht, The Netherlands
- Bert Arets, UMC Utrecht, The Netherlands
- Manon Burer, UMC Utrecht, The Netherlands

#### ABSTRACT

**Background:** The Teaching Scholar Program (TSP) was developed and set up in the University Medical Center Utrecht in 2013 as a two-year postgraduate program (20 ECTS) to provide teachers a broader and more academic insight in medical education and didactics. Every year 6 candidates meeting the eligibility criteria are admitted: doctors, educationalist, managers. They are expected to participate actively in the program, visit a medical education conference and perform and publish research in medical education. The learning goals of the TSP course are focused on expanding theoretical knowledge and performing medical education research. Moreover, we are also interested whether it enriches the participants' educational careers.

**Summary of Work:** To evaluate this program we composed a questionnaire concerning pre-, peri- and post-TSP educational activities of participants conform the by Kirkpatrick and Kirkpatrick (2006) proposed fields : reaction, learning, behavior and results. The diversity of the participants and their careers made it a challenge to pose the right questions for the answers we are looking for, especially on the four levels mentioned. All TSP participants from 2013 onwards were invited to complete the online questionnaire.

**Summary of Results:** During the conference we will present the outcome and effect of this scholar program on education and career of the participants.

**Discussion and Conclusions:** The assumption of honours programs for teachers is that it will enrich their education and boost their career. However, assumptions are potentially dangerous. Therefore, evaluation is key for understanding the effect. So far, evaluation was not part of this TSP program. This gave us the opportunity to evaluate the long-term effect of this program on the participants. Composing the right questionnaire to evaluate an educational program is challenging, but vital for further development of this program. The design of the questionnaire was based on literature and expertise of professor ten Cate and the authors, who developed several educational programs including evaluations. Common pitfalls in evaluations are the recency effect, the halo and horns effect and projection.

**Take-home Messages:** We consider evaluation an integral part of program development.

## #7GG Posters - Faculty Development

### 7GG06 (2158)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Academic Training for Teachers - A Model of Medical Education Strategy Implemented in the University of Medicine, Pharmacy, Science and Technology, Târgu Mureș, Romania

#### AUTHOR(S):

- **Simona Muresan, University of Medicine, Pharmacy, Sciences and Technology, Târgu Mureș, Romania (Presenter)**
- Leonard Azamfirei, University of Medicine, Pharmacy, Sciences and Technology, Târgu Mureș, Romania
- Oana Cristina Mărginean, University of Medicine, Pharmacy, Sciences and Technology, Târgu Mureș, Romania
- Anca Meda Georgescu, University of Medicine, Pharmacy, Sciences and Technology, Târgu Mureș, Romania

#### ABSTRACT

**Background:** The University of Medicine, Pharmacy, Science and Technology from Târgu Mureș™, Romania, started in 2016 a curriculum reform process, with a duration of four academic years

**Summary of Work:** The paper presents the strategy of human resources development, unitary applied in the Faculty of Medicine, Faculty of Dentistry and Faculty of Pharmacy, in order to synchronize the new curriculum and teaching methods to new international medical education standards.

**Summary of Results:** The Department for Internal Evaluation of Study Programs and Curriculum Development (the leading administrative structure for the curriculum reform process) together with the Department of Pedagogical Training for Teachers, designed a complex course of six modules, for a target group of 35 teachers.

**Discussion and Conclusions:** According with institutional objectives, the themes of the training were focused on: general principles of didactics for medical-pharmaceutical subjects/topics; learning based on SMART objectives and e-Learning; Team Based Learning; Case Based Learning; Problem Based Learning and assessment in medical education. For each theme were dedicated 36 hours of direct meetings (lectures, small groups activities), but also individual projects or projects elaborated in teams. In order to increase the compliance of the participants, the training was performed during weekends. The entire training was based also on on-line communication between trainers and learners and bidirectional feedback. The curricular reform implementation is a complex process that needs consequence, continuity, and a synchronization with human and material resources development.

**Take-home Messages:** Training the teaching staff is a mandatory request for the academic progress, but this process should be adapted to national, regional and local context of medical education.

## #7GG Posters - Faculty Development

### 7GG07 (3212)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Transforming Clinicians into Leading Medical Educators: Outcomes from an Innovative Programme

#### AUTHOR(S):

- **Kate Seddon, Avon and Wiltshire Mental Health Partnership NHS Trust (AWP), UK (Presenter)**
- Harriet Greenstone, Avon and Wiltshire Mental Health Partnership NHS Trust, UK
- Laura Bennett, Avon and Wiltshire Mental Health Partnership NHS Trust, UK
- Stephen Arnott, Avon and Wiltshire Mental Health Partnership NHS Trust, UK
- Lise Paklet, Avon and Wiltshire Mental Health Partnership NHS Trust, UK
- Eva Bowditch, Avon and Wiltshire Mental Health Partnership NHS Trust, UK

#### ABSTRACT

**Background:** Junior doctors are major contributors to undergraduate medical education, though this is often through ad-hoc lectures or opportunistic clinical teaching and it is unusual for junior doctors to take on formal educational roles. The innovative regional 'Junior Associate Tutor' (JAT) programme was set up to give trainee psychiatrists the opportunity to develop as medical educators, through a formal recognised role, delivering and setting up teaching for Bristol University medical students.

**Summary of Work:** In August 2017 eight junior psychiatrists (Core Trainees) were appointed as 'JATs'. JATs were offered monthly facilitated peer group supervision, support from the trust (AWP) Medical Education Department in developing education quality improvement projects (QIP), varied teaching opportunities, funding for medical education training and support in developing medical educator PDPs. The role was evaluated using detailed written feedback questionnaires as well as within peer group supervision.

**Summary of Results:** Starter questionnaires showed JATs anticipated that the role would aid their development of skills, network within medical education and to some extent have a role in influencing their organisation. The final feedback results showed that individual JATs reported developing an increased confidence in teaching, a greater sense of identity as educators and enhanced skills in quality improvement. One noted the 'formal role made me feel more invested in teaching'. Several JATs presented their QIPs at national conferences, one won a prize for their Clinical Skills project, whilst another was subsequently appointed as a full time 'senior clinical teaching fellow'.

**Discussion and Conclusions:** As well as promoting individual trainee development, the role had a positive impact on the development and delivery of undergraduate medical education across the trust. The role also influenced the Bristol University Medical School curriculum methodology, as two innovative projects created and developed by JATs were subsequently incorporated into the curriculum. A new cohort of JATs has been appointed in August 2018 with ongoing evaluation of the role.

**Take-home Messages:** 1. Developing specific educational roles encourages clinicians to develop skills and their identity as educators. 2. Investing in these clinicians results in improvements in practical delivery of teaching. 3. Junior staff can contribute to systemic improvements in undergraduate medical curriculum.

## #7GG Posters - Faculty Development

### 7GG08 (1115)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### School of Junior Academics: The Case of Rīga Stradiņš University

#### AUTHOR(S):

- Nora Jansone-Ratinika, Rīga Stradiņš University, Latvia (Presenter)
- Raimonds Strods, Rīga Stradiņš University, Latvia

#### ABSTRACT

**Background:** According to legislation to carry out teaching at a HEI in Latvia - both Health Care and Social Science study programmes at RSU - no official acknowledgment of pedagogical education is requested, which explains the unequal entry level of pedagogical competencies. To strengthen the quality of the study process, an institutional decision to establish School of Junior Academics (SJA) has been made with an aim to support junior academics in leading, evaluating and improving the study process.

**Summary of Work:** To develop SJA, the needs of potential participants and management were identified, a research of field experience carried out and systematic literature review approved by field experts. The concept of SJA is based on Basic Programme Development Model (Seevers, Conklin, 2012) and in the process of implementation, an ongoing mix design research in which three-level quality assessment in various dimensions, containing junior academics', management, experts' of pedagogy and student feedback is carried out.

**Summary of Results:** SJA content covers: student-centred approach; vision of RSU development; organisation of the study process; development and implementation of study content; internal and external quality evaluation. 6 month studies are delivered in face-to-face, flipped classroom, blended and online learning. The school's content is enriched with supervision, networking with other HEI, e-journal club, direct observation, team building events to strengthen the junior academics' assurance of own competency. Dynamics of participants' growth will be reported on, reflecting competencies and increase of assurance of own pedagogical performance and authors' know-how about development and implementation of SJA.

**Discussion and Conclusions:** SJA will be meaningful if junior academics at school will: Create culture of collegiality and obtain common understanding of the institution's values; Co-operate with mentors and consultants from different levels; Understand and assimilate the academical, scientific and administrative dimensions of work; 4) Enrich understanding about higher education sector institutions, formation of network connection in everyday life; Strengthen competency to manage the process of teaching and learning; Evolve life-long learning as a form of professional development.

**Take-home Messages:** SJA helps junior academics to meaningfully start their career in HEI; Junior academics and management agree that strengthening pedagogical competency promotes academics' well-being and is the catalyst of study process quality improvement.



## #7GG Posters - Faculty Development

### 7GG09 (1393)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Perspectives of Academic Staff on the Roles of the Newly Appointed Teacher in Health Sciences

#### AUTHOR(S):

- Chantel van Wyk, University of the Free State, South Africa (Presenter)
- Gert J van Zyl, University of the Free State, South Africa

#### ABSTRACT

**Background:** Medical teachers wear many “hats” in the key roles they portray in the educational process. Faculty development initiatives can assist the newly appointed medical teacher to gradually obtain the necessary competencies required for these various roles. The aim of the study was to identify which of the roles to focus on first during centralised faculty specific training.

**Summary of Work:** An adaptation of the 12 roles of the medical teacher model framed by Harden and Crosby (2000) was used in this study. The research was quantitative. A questionnaire was used to obtain data from 256 academic staff members from a South African University. Staff had to indicate (on a four-point scale) their perception of the level of importance of each role with specific reference to training the newly appointed medical teacher. A 50% response rate was obtained.

**Summary of Results:** Academic staff considered the roles of a role model for students (99.2%), an information provider in the classroom (98.4%), facilitator of learning (97.6%) and assessor (97.6%) most important for the newly appointed teacher. The roles of curriculum planner and evaluator were deemed not important at all by 28.9% and 22.7% of academics.

**Discussion and Conclusions:** Centralised faculty development should focus on the, identified, most important roles first during training. However, a need for continued training and support including on-the-job training within departments as it pertains to the specific role/s of the newly appointed teacher was identified and is recommended.

**Take-home Messages:** In academia, as soon as you stop learning, you stop growing! Centralised faculty development initiatives to train the newly appointed medical teachers can get them off to a good start, but the ideal will be to have continued and lifelong support and development opportunities as it pertains to individual teachers in their specific roles.

## #7GG Posters - Faculty Development

### 7GG10 (2015)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A heuristic workshop improves emergency medicine physicians' ability to design and conduct effective bedside teaching rounds

#### AUTHOR(S):

- Jihai Liu, Department of Emergency Medicine, Peking Union Medical College Hospital, China (Presenter)
- Di Shi, Department of Emergency Medicine, Peking Union Medical College Hospital, China
- Li Li, ShenZhen Municipal Health Commission, China
- Jiangshan Wang, Department of Emergency Medicine, Peking Union Medical College Hospital, China

#### ABSTRACT

**Background:** Studies have shown the challenges of designing/conducting effective teaching rounds (TR) at the bedside, especially in the unique environment of emergency medicine (EM). In a tertiary EM center, we have developed a heuristic educational workshop for EM TR. This study aimed to evaluate the impact of the new workshop on the confidence and skills of EM physicians in TR.

**Summary of Work:** We offered open enrollment of the heuristic workshop in a large metropolitan area of China to any EM physicians interested in TR. We surveyed consent participants before and after the workshop regarding their confidence in design/conduct TR, along with the perceived challenges and benefits. We compared the before and after statistics using the McNemars test.

**Summary of Results:** Our workshop enrolled 64 EM (from 30 hospitals) attending physicians who were interested in improving teaching rounds in EM. 44/64 provided answers to both the pre and post-survey. Most participants were from third-tier academic centers (88%), age 36 or above (56%), with a master or doctoral degree (65%). After the training, participants reported an overwhelming improvement of confidence in designing TR (14% vs. 95%,  $p < 0.001$ ), guiding TR discussion (25% vs. 98%,  $p < 0.001$ ), naming the challenges of TR, identifying the suitable timing and conditions, and setting realistic goals. More than 80% reported a gain in multiple aspects of TR after the training. Participants also adopted a more positive attitude of TR regarding the benefit for patients (52% vs. 75%), and the benefit for trainee (77% vs. 98%).

**Discussion and Conclusions:** Our workshop which utilized simulation techniques and hands-on design was an effective method to quickly equip EM attending physicians with needed knowledge of designing and conducting TR in EM. We also found that the improved knowledge of TR may alleviate physicians off the concerns for the negative aspect of TR in EM, such as the conflict with clinical workflow, or lack of benefit for patients.

**Take-home Messages:** We have demonstrated that a short intensive workshop can significantly bridge the knowledge gaps of TR in the EM physicians.

## #7GG Posters - Faculty Development

### 7GG11 (1388)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Effectiveness of Examiner Training in Preparing Medical Students as Mock OSCE Examiners

#### AUTHOR(S):

- **Jian Hui Koo, Lee Kong Chian School of Medicine, Singapore (Presenter)**
- Kim Yao Ong, Lee Kong Chian School of Medicine, Singapore
- Yun Ting Yap, Lee Kong Chian School of Medicine, Singapore
- Ying Qi Goh, Lee Kong Chian School of Medicine, Singapore
- Sarah Hui Wen Neo, Lee Kong Chian School of Medicine, Singapore
- Kum Ying Tham, Lee Kong Chian School of Medicine, Singapore

#### ABSTRACT

**Background:** A common form of peer-assisted learning is the Mock Objective Structured Clinical Examination (MOSCE), where senior students perform the role of student-examiners to assess their juniors. The literature reveals no reports of student-examiner training programmes. This study evaluates a student-examiner training programme that prepares them to be effective examiners in a MOSCE.

**Summary of Work:** Three groups of student-examiners were recruited: (1) trained Year 3 (Y3)-examiners who completed an examiner training session conducted by an experienced doctor-trainer and examiner, (2) untrained Y3-examiners who did not undergo training and (3) Year 5 (final year, Y5) student-examiners who were controls; the assumption being that they have tacit knowledge and skills to be effective examiners. Each Y3-examiner was paired with a Y5-examiner to independently assess examinees using a structured mark scheme. The MOSCE had physical examination (PE) and history-taking (Hx) stations. The PE mark scheme consists of (i) examination steps and (ii) global scores; those for Hx consisted of (i) content, (ii) communication and (iii) global scores. Intraclass-correlations (ICC) and mean scores between Y3-examiners and Y5-examiners were calculated. Independent t-tests were used to calculate statistical significance, at  $p \leq 0.05$ .

**Summary of Results:** There were 12 trained and 23 untrained Y3-examiners who, with Y5-examiners, assessed 104 Year 2-examinees. There were 108 and 66 attempts for Hx and PE stations respectively. There is good correlation between total scores given by Y3-examiners and Y5-examiners for PE ( $ICC=0.840$ ) and Hx ( $ICC=0.826$ ). For PE, there is no significant difference in scores for both examination steps and global scores between trained Y3-examiners ( $p=0.774$ ,  $p=0.418$ ) and untrained Y3-examiners ( $p=0.552$ ,  $p=0.271$ ) when compared to Y5-examiners. For Hx, there is a significant difference in communication ( $p=0.012$ ) and global ( $p=0.024$ ) scores between trained and untrained Y3-examiners when compared to Y5-examiners. However for Hx content scores, there is no significant difference ( $p=0.064$ ,  $p=0.999$ ).

**Discussion and Conclusions:** For Year 2 MOSCE physical examination stations, Y3-examiners are effective even without training when a structured mark scheme is used. For history-taking stations, examiner training should continue and focus on assessment of examinees' communication skills and how to assign global scores.

**Take-home Messages:** In summary, there is a need for student OSCE-examiner training with a selective focus on history-taking stations.

## #7GG Posters - Faculty Development

### 7GG12 (67)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### How we implemented a train-the-trainer workshop for medical student engagement to develop a teaching ward program

#### AUTHOR(S):

- Ching Chung Lin, MacKay Memorial Hospital, Taiwan (Presenter)
- Chiu-Ping Kuo, MacKay Memorial Hospital, Taiwan
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#### ABSTRACT

**Background:** Student engagement needs a supportive hospital environment, active and collaborative learning, and good student faculty interaction. The objective of this study was to create and evaluate a train-the-trainer (TTT) workshop for internal medicine attending doctors to build a teaching team in a ward, improve their teaching and assessment skills, and set up a curriculum.

**Summary of Work:** The half-day TTT workshop introduced and practiced five domains: team management, curriculum development, teaching and learning practices, assessment practices, and clinical reasoning education for internal physician staffs. The effectiveness of the TTT was examined through self-evaluation questionnaires assessing the trainees' changes in knowledge, reactions to education materials, and overall satisfaction before and after the training and then three months later.

**Summary of Results:** Altogether, seven trainees and five teachers participated in the TTT workshop. The general satisfaction level was 4.4/5, and the scores of teachers' ability was 4.5/5. The average scores of participants' self-ability evaluations significantly immediately in all five domains improved after the TTT workshop, but only in the team-management domain did the trainees retain their improved competency scores three months later ( $p < 0.01$ ).

**Discussion and Conclusions:** After this TTT workshop, the teaching staffs reached an agreement in which they created ultrasound and clinical reasoning teaching programs. The students' feedback indicated that they were satisfied with the instruction in teaching, and they felt that residents can also be teachers. Our next TTT research will focus on continuing education for medical teaching staff.

**Take-home Messages:** TTT workshops can improve a faculty's short-term teaching skills, and establishing a teaching ward can affirm a hospital's supportive attitude toward education and enable students engage in hands-on learning.

## #7GG Posters - Faculty Development

### 7GG13 (541)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Teacher's Wellness - a workshop combined with MBSR and mentoring skills for clinical teachers - what did we find?

#### AUTHOR(S):

- Pei-Chun Lin, Far Eastern Memorial Hospital, Taiwan (Presenter)
- Ya-Ting Yang, Far Eastern Memorial Hospital, Taiwan
- Yun Chen, Far Eastern Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Clinical teachers feel stress while dealing multiple roles in a teaching hospital, along with their clinical service, teaching, and research. Mentoring skill is one of the most stressful factors especially when supervise trainee in difficulty. We sought to develop a program to meet faculty needs and retrieve resilience.

**Summary of Work:** We implemented a one-day offsite workshop with two topics: (1) Mindfulness-Based-Stress-Reduction (MBSR), (2) mentoring strategies and tools for trainee in difficulty. We expected through this workshop could reduce teachers' stress and develop confidence and ability for mentoring as well. Questionnaire designed regarding teacher's stress and self-confidence in mentoring were collected.

**Summary of Results:** As a pilot, 40 clinical teachers from various specialties were assigned into 6 different groups, 92.5% are clinical teachers and 4 of them are playing three roles as clinical teacher, program supervisor and program director at the same time. Only 30% of participants have been approach MBSR or resilience program, and 40% received mentoring training before. Through using a pre and post-session questionnaire, teacher's self-confidence in mentoring skills have increase spectacularly in identifying related issues for trainee in difficulty, and obtaining the communication skills with trainee's other stakeholders (e.g. parents). Participants 100% agreed the workshop could help their resilience and understand the role and responsibilities as a mentor. Surprisingly teacher's wellness was recognized after this whole-day interactive mentorship. Providing further MBSR training (25.7%), or resilience programs (21.1%), or simulated situation for mentoring training (19.3%) were strongly suggested to sustain teacher's wellness and enhance mentor efficacy.

**Discussion and Conclusions:** We found MBSR training gave them a space to understand stress management and obtain resilience, coupled with the mentor skills and interactive mentorships were the key for teacher's wellness. All participants found this workshop entirely positive. Systemic approach to provide a wide variety faculty development programs including MBSR, mentoring skills and mentorships are mandatory to enhance teacher's wellness.

**Take-home Messages:** Effective faculty development programs to cultivate resilience and facilitate greater networking and mentorship among clinical teachers could enhance their wellness thus to fulfil faculty commitment with institutional mission and teaching professionalism.



## #7GG Posters - Faculty Development

### 7GG14 (1229)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Clinical Teachers' Translating Learning into Practice following Faculty Development Programs: A questionnaire study

#### AUTHOR(S):

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- Szu-Han Wang, Chang Gung Memorial Hospital, Taiwan
- Ying-Yu Chen, Chang Gung Memorial Hospital, Taiwan
- Hsu-Min Tseng, Chang Gung University, Taiwan
- Kou-Su Chen, Chang Gung Memorial Hospital, Chang Gung University, Taiwan
- Hui-Ling Lin, Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Faculty development is a crucial element of medical education institutions. Our previous research identified key issues around why clinical teachers' learning does not always translate into practice, guided by self-regulation theory. This study aims to develop a questionnaire for clinical teachers to understand more about this issue.

**Summary of Work:** Researchers developed the questionnaire with 72 items from previous qualitative study which than was modified to 35 items after a pilot test (n=25), the online survey issued to 933 clinical teachers by email from four teaching hospitals in Taiwan following their attendance at a faculty development program. Data analysis was done by SPSS.

**Summary of Results:** Respond rate is 40.52%(n=378). Exploratory factor analysis showed the theoretical themes of Goal Setting, Self-instruction, Balance between Teaching and Clinical Workload, and Self-Evaluation, as the same latent factor. Nurses were most likely to seek help when facing teaching activities problems which cannot solved by themselves, followed by other medical-related personnel, and lastly by doctors ( $F(2,375)=30.100, P=.000$ ). They are more likely to adjust their teaching methods after intervention.

**Discussion and Conclusions:** We found that clinical teachers considered forethought, performance, and reflection in self-regulation as the same latent factor. Clinical teachers from different specialties demonstrate different preferences while teaching, with teaching methods being influenced by previous experience. This suggests that we may need to use different intervention strategies during faculty development for different specialties. Our study identified different types of medical-related personnel can be influenced by different factors during their clinical teaching practice. Furthermore, they revealed different thought processes and behaviors during their teaching process on. In the future, the questionnaire will be applied to another faculty development for understanding their mentality.

**Take-home Messages:** A questionnaire of clinical teachers' self-regulation was developed for understanding clinical teachers' translation after intervention. The result of exploratory factor analysis shows clinical teachers' mindset of self-regulation in teaching is differs from current theoretical constructs. Individuals from different professional groups demonstrate different preferences in clinical teaching.

## #7GG Posters - Faculty Development

7GG15 (3043)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A qualitative study of outpatient clinical teachers' pedagogical skills in the French part of Switzerland: a call for targeted training

#### AUTHOR(S):

- Marie-Claude Audétat, UDREM at UIGP, Faculty of Medicine, University of Geneva, Switzerland (Presenter)
- Johanna Sommer, UIGP, Faculty of Medicine, University of Geneva, Switzerland
- Virginie Muller-Juge, UIGP, Faculty of Medicine, University of Geneva, Switzerland
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- Anne Catherine Pereira Miozzari, UIGP, Faculty of Medicine, University of Geneva, Switzerland

#### ABSTRACT

**Background:** Clinical teachers need to be able to combine clinical work and teaching by relying on solid pedagogical tools. A commitment towards a process of continuous training to evaluate the acquisition and use of the tools is of paramount importance. Observing clinical teachers in supervision combined with feedback represents an established model for encouraging efficient learning.

**Summary of Work:** A qualitative and descriptive analysis was carried out to assess the process and pedagogical content of the supervision of standardized students. We used a descriptive tool for peer review of clinical teaching skills developed by Sommer et al. as a conceptual framework to analyze the process and the content of 60 standardized supervision situations.

**Summary of Results:** Our results describe the analysis of the 60 supervisions carried out among 20 clinical teachers in the French-speaking part of Switzerland, with each clinical teacher having supervised students in three clinical situations. They present gaps in using clinical supervision as a pedagogical tool and still need to develop their teaching scripts to reinforce their pedagogical role.

**Discussion and Conclusions:** In general, clinical teachers are worried about creating a favorable learning environment for their students but they rarely integrated the structure of the supervisory process. Overall, clinical teachers feel relatively comfortable when it comes to the structure of clinical interview and in the supervision of the relationship with the patient, but the supervision of the clinical reasoning is deficient. These results will help pedagogical training programs adapt to the clinical teachers' needs. By acquiring teaching skills for clinical teachers through an innovative manner that highlights the positive and negative aspects of supervising, both in term of the process and the content used during supervision.

**Take-home Messages:** The observation of clinical supervisions show that clinical teachers need: -to develop their teaching skills, -to acquire a clear structure of supervision and -to reinforce their skills to teach clinical reasoning. This will help them experience positively their double "clinician and teacher" role and encourage them to surpass an implicit benevolent role model in their interactions with students.

## #7GG Posters - Faculty Development

### 7GG16 (3128)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Survey among students and residents at the Reims Faculty of Medicine leading to the “Clinical supervision in 300 seconds” program, a doctor’s toolbox for the supervision of students

#### AUTHOR(S):

- **Evan Gouy, Reims Faculty of Medicine, France (Presenter)**
- Mathias Brugel, Reims Faculty of Medicine, France
- Raquel Correia, Reims Faculty of Medicine, France / Germany
- Jean Hugues Salmon, Reims Faculty of Medicine, France
- Nathalie Bednarek-Weirauch, Reims Faculty of Medicine, France
- Guillaume Cadiot, Reims Faculty of Medicine, France

#### ABSTRACT

**Background:** Companionship is an important part of medical education in France. Indeed, from the first year and more particularly from the 4th year of the curriculum, students start their hospital internships and learn at the patients bedside with their seniors. In order to guide supervisors and optimize their teaching methods, we have launched a working group at the Faculty of Medicine in Reims on clinical supervision training. We decided to launch a one-minute preceptor training program under the name of “Clinical Supervision in 300s” Before we start, we made an inventory of the situation with residents and graduate students on their perception of clinical supervision.

**Summary of Work:** Two questionnaires were designed. The first for medical students assessed the perception of clinical supervision, students wishes teaching according to the type of department including the available resources. The second questionnaire for residents assessed the time available for teaching, the skills that were deemed necessary and sometimes missing. Finally, a question was asked whether learning teaching methods could be used with patients.

**Summary of Results:** We have collected 112 responses from medical students and 40 from residents. 83% of students considered that the primary supervisor is the resident far ahead others. Among the skills required, patience, skills for synthesis and caring came first. Among the residents, 75% considered themselves important actors in the students training but more than 50% wished to devote less time to teaching while being 40% who wanted to be more involved in this field. More than 50% would be willing to participate in pedagogical training knowing that these skills could be used with their patients.

**Discussion and Conclusions:** Residents are aware that they are essential cogs and they lack expertise in medical pedagogy. Interactivity and non-judgmental feedback are appreciated. We therefore felt it was essential to provide residents with a toolkit to support students in the time they can devote to them. We named this toolbox “clinical supervision in 300s”. Modalities and results will be presented at the meeting.

**Take-home Messages:** Give your students a voice, they will tell you what they need most!

## #7GG Posters - Faculty Development

### 7GG17 (2240)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Clinical supervision training project at the Faculty of Medicine in Reims: inventory of the situation before implementation

#### AUTHOR(S):

- **Mathias Brugel, Reims Faculty of Medicine, France (Presenter)**
- Evan Gouy, Reims Faculty of Medicine, France
- Raquel Correia, Reims Faculty of Medicine, France/Germany
- Jean Hugues Salmon, Reims Faculty of Medicine, France
- Nathalie Bednarek-Weirauch, Reims Faculty of Medicine, France
- Guillaume Cadiot, Reims Faculty of Medicine, France

#### ABSTRACT

**Background:** Companionship is an important part of medical education in France. Indeed, from the first year of the course, students start their hospital internships and learn at the patients bedside with their seniors. However, divided between clinical activity, research, management and their own professional development, supervisors must be guided to optimize their teaching methods. It is with this in mind that we have launched a working group at the Reims Faculty of Medicine on clinical supervision training. To begin, we wanted to make an inventory of the situation with residents and graduate students on their perception of clinical supervision.

**Summary of Work:** Two questionnaires were designed. The first was for students between 4th and 6th year. It assessed the perception of clinical supervision, students wishes teaching according to the type of department including the resources available. A second questionnaire was designed for residents. It assessed the time available for teaching, the skills that were deemed necessary and sometimes missing. Finally, a question was asked whether learning teaching methods could be used with patients. In both cases, a free comment area was present. The questionnaires were distributed by faculty mailing and social networks.

**Summary of Results:** We have collected 112 responses from medical students and 40 from residents. 83% of students considered that the primary supervisor is the resident far ahead others. Among the skills required, patience, spirit of synthesis and caring came first. Among the residents, 75% consider themselves an important actor in the training of students but more than 50% wish to devote less time to teaching while being 40% to want to be more involved in this field. More than 50% would be willing to participate in pedagogical training knowing that these skills could be used with their patients.

**Discussion and Conclusions:** The intern is an essential cog and he is aware of it. Interactivity with non-judgmental feedback is valued. There is a partial lack of knowledge in medical pedagogy. So, it seemed essential to us to provide interns with a toolbox to support students in the time they can devote to them.

**Take-home Messages:** With these results, inspired by the one minute supervisor, we created clinical supervision in 300s.

## #7HH Posters - Junior Doctor as Teacher

### 7HH01 (1089)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring the performance and desired capabilities of model clinical teachers - Aligning with The Academy of Medical Educators' Professional Standards

#### AUTHOR(S):

- Jer-Chia Tsai, Kaohsiung Medical University Hospital, College of Medicine, Kaohsiung Medical University, Taiwan (Presenter)
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- Chyi-Her Lin, E-Da Hospital, College of Medicine, I-Shou University, Taiwan, Taiwan

#### ABSTRACT

**Background:** Developing clinical teachers as medical educators is a key for quality assurance of clinical education. However, it is challenging to define and establish the capabilities of core values and teaching competencies for model clinical teachers. The UK Academy of Medical Educators (AOME)' Professional Standards provided the framework for the development and appraisal of medical educators. This study aims to explore how clinical teachers perceive their performance and desired capabilities as medical educators in aligning with AOME's standards.

**Summary of Work:** Individual interviews were conducted from 12 clinical teachers with 10.8±5.0 years of educational experiences at Kaohsiung Medical University Hospital. Qualitative thematic analysis was applied to extract the themes and categorize them to specific elements and levels in three domain of AOME's standards: (1) Designing and planning learning, (2) Teaching and facilitating learning, and (3) Assessment of learning.

**Summary of Results:** The themes of desired capabilities of model clinical teachers were identified and categorized based on AOME's domains. Domain one included "constructing course learning goals, employing the different teaching models and materials in meeting learners' needs, providing the simulation training and informal learning opportunities, and supporting the residents as teachers". Domain two included "guiding learners' self-directed learning approach and skills, fostering learners' growth mindset of trial and error, creating a learning environment with mutual respect among team members, providing timely, positive feedback, and opportunities for practice". Domain three included "applying assessment drives learning, encouraging learners' self-assessment, and designing department-specific assessment". Core values included "patient-centered care, collaborative learning, and supportive organizational culture".

**Discussion and Conclusions:** Results demonstrated that our clinical teachers aspire to embody the core values and teaching competencies that might be specific to local socio-cultural context but also align with AOME's standards, mostly to level 1 and 2 of three domains. There is room for advancing them to the higher levels of desired capabilities. Clinical teachers express the needs of organizational support for personal professional development and quality improvement of clinical learning environment.

**Take-home Messages:** Clinical teachers' self-reflection on their performance and desired capabilities as medical educators could discover their shared values and needs in meeting AOME's professional standards. Collaborative organizational culture and support are critical to better clinical teacher development.



## #7HH Posters - Junior Doctor as Teacher

### 7HH02 (3457)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Analysis of teaching doctor statue required by junior residents

#### AUTHOR(S):

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- Chikako Okawara, Graduate School of Health Sciences, Tokyo Medical and Dental University, Japan
- Eriko Okada, Department of Medical Education Research and Development, Tokyo Medical and Dental University, Japan
- Makoto Takahashi, Department of Medical Education Research and Development, Tokyo Medical and Dental University, Japan
- Yujiro Tanaka, Department of Medical Education Research and Development, Tokyo Medical and Dental University, Japan

#### ABSTRACT

**Background:** After our university hospital clinical training, at the end of the course junior residents are asked to state cards to thank any teaching doctor. It is to analyze gratitude contents from the contents of the description and to clarify the teaching doctor image to obtain.

**Summary of Work:** Objectives: In the end of March 2018 we gave my handwritten notes on the cards to express my gratitude to the teaching doctor at the training completion ceremony. Next, using the teaching doctor evaluation table (Kikukawa, Medical teacher 2017), 18 questions on teaching activity, role model, and accessibility were answered with five levels of Visual analog scale (VAS). Methods: 1) We performed word frequency analysis and correspondence analysis based on cooccurrence relations of words using text mining method. We used Text Mining Studio 6.1.0 for analysis software. 2) We quantitatively evaluated teaching activity, role model and accessibility based on the VAS scale of the teaching doctor evaluation table.

**Summary of Results:** Results: We got an entry from 63 resident physicians, and there were 63 address teaching doctors. There were 37 cases (58.7%), 25 (39.7%) of the same, and 1 (0.6%) of the unknown, which were different between the resident's and teaching doctor's departments. In the word frequency analysis, words related to the attitude of teaching doctors, teaching, clinical training, initial clinical training, continued together, work attitude, polite, gentle and so on were also high in word frequency analysis. 2) There were 47 respondents in the teaching doctors evaluation table, teaching activity  $4.68 \pm 0.60$ , role model  $4.59 \pm 0.64$ , accessibility  $4.79 \pm 0.42$ . Accessibility was significantly higher than the other two factors.

**Discussion and Conclusions:** Attitudes and guidance of the teaching doctor have become a factor determining the basic medical care skills and career path in the first year, and it was thought that the teaching doctor who is accessible is wanted by the resident.

**Take-home Messages:** The teaching doctor plays a role as master of basic medical care skills and role model, and is required from the interns with accessibility.

## #7HH Posters - Junior Doctor as Teacher

### 7HH03 (1650)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Teaching practices in health undergraduate programs: Two sides of the coin

#### AUTHOR(S):

- **Cristhian Perez, Universidad de Concepcion, Chile (Presenter)**
- Nancy Bastias, Universidad de Concepcion, Chile
- Giulietta Vaccarezza, Universidad San Sebastian, Chile
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- Mary Jane Schilling, Universidad de Concepcion, Chile
- Josselinne Toirkens, Universidad Catolica de Temuco, Chile

#### ABSTRACT

**Background:** Teaching practice is a complex phenomenon that include the way in which teachers interpret learning situations, pedagogical training they receive, meanings that they attribute to learning process, teaching decisions they make and the way they behave in front of students.

**Summary of Work:** The objective of this work was to identify profiles of teachers in undergraduate health programs according to their pedagogical practices. This research was founded by CONICYT-FONDECYT 1190931. 290 teachers from undergraduate health programs were surveyed (64.45% were women). They answered Pedagogical Practices Questionnaire, Teaching Conceptions Questionnaire, Occupational Identity Questionnaire, Pedagogical Training Questionnaire and Teaching Engagement Questionnaire. Everyone of them participated in an informed consent.

**Summary of Results:** A hierarchical cluster analysis identified two teacher clusters considering all performed measurements. Then, a non-hierarchical cluster analysis assigned 120 teachers to cluster 1, which was labeled Low involvement teachers and 170 were assigned to cluster 2, which was labeled High involvement teacher. Cluster 2 obtained higher scores in every measurement.

**Discussion and Conclusions:** There are two teacher profiles. One of them is a little more frequent and it is characterized by more constructivist practices, higher teaching commitment, more frequent pedagogical training and an occupational identity more oriented to teaching.

**Take-home Messages:** Teaching practices have many sides and all of them are interrelated.

## #7HH Posters - Junior Doctor as Teacher

### 7HH04 (3432)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Interpretation of the professional identity of the medical educator as a member of an educational project

#### AUTHOR(S):

- Mildred Vanessa Lopez Cabrera, Tecnológico de Monterrey, School of Medicine and Health Sciences, Mexico (Presenter)
- Silvia Lizett Olivares Olivares, Tecnológico de Monterrey, School of Medicine and Health Sciences, Mexico
- Yolanda Heredia, Tecnológico de Monterrey, Mexico

#### ABSTRACT

**Background:** Besides to sharing knowledge, values, and attitudes, the members of a profession share the way of understanding themselves or perceive life; this is also known as professional identity. To achieve this, they acquire multiple roles, and responsibilities, and perform collaboratively, thus defining their professional culture. Medical educators are committed to the development of their students, are leaders on their disciplinary field, and have academic as well as clinical activities that demonstrate their commitment to the community.

**Summary of Work:** The objective of this study was to explore the concept of professional identity through the professional culture perceived by the medical educator. A qualitative method was implemented, using a grounded theory design with systematic procedures. A sample of 39 medical educators participated in structured interviews. After the transcription of their answers, a thematic content analysis was carried using the professional culture model: individualism, balkanized, collegiality per project, and extended collaboration.

**Summary of Results:** The analysis indicates that the identity of medical educators associates in 44% to individualism, 31% balkanized, 13% collegiality per project, and 13% extended collaboration.

**Discussion and Conclusions:** This concentration in the professional culture towards individuality and balkanized culture is evident in the approach that universities give to the individual responsibilities of teachers. For example, faculty members receive personal feedback of performance and economic incentives are based on evidence such as publications, awards, and results of the student's satisfaction surveys.

**Take-home Messages:** A transition is needed to work on collaborative activities with meaningful projects that allow medical educators to work together; this would make it possible to obtain a shared vision of what it means to be a medical educator.

## #7HH Posters - Junior Doctor as Teacher

### 7HH05 (927)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Our experience with the development of a Teaching Quality Index, a tool to credit teachers for their educational achievements

#### AUTHOR(S):

- Levente Kiss, Semmelweis University, Teaching Center, Department of Physiology, Hungary (Presenter)
- Krasimir Kolev, Semmelweis University, Department of Medical Biochemistry, Hungary

#### ABSTRACT

**Background:** In 2016 the Dean of the Faculty of Medicine at the Semmelweis University initiated programmes to improve the quality assurance of teaching. These programmes subsequently led to a project aiming to develop a Teaching Quality Index (TQI) to acknowledge the importance of teaching and teachers as objectively as possible.

**Summary of Work:** The project team consisted of 20 university staff members (academic tenure and financial executive officers) and students. During several meetings the participants discussed the available options, surveyed the literature, analyzed the financial possibilities and through discussions the general scheme of the TQI started to take shape.

**Summary of Results:** The TQI is based on a ranking of the teachers within the institutions assigning an equal weight to several objective criteria for expert analysis of the educational work of the teachers and subjective on-the-spot student feedbacks. The TQI might be used for quality assurance programs and for financial rewards.

**Discussion and Conclusions:** The TQI represents one possible solution to provide a semi-objective ranking system based on teaching quality. It is not without its drawbacks. Various institutions may value different roles of the teacher and in its current form the TQI cannot be used to compare teaching quality across institutions. Assigning an index to the complex activities of teaching is a challenging task and it engages with a scale of values. Therefore the Faculty must clarify its core values in its mission statement and the assessment of teaching quality must stem from that. However, it is highly difficult to satisfy everyone with any given system.

**Take-home Messages:** In order to improve quality of teaching it is important to give due credit to the teaching process and reward those who are putting effort to their teaching activities. In order to develop a fair system stakeholders must agree on core values based on which teaching quality can be assessed.

## #7HH Posters - Junior Doctor as Teacher

### 7HH06 (231)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Effective Evaluation of Faculty Work: Using Clinical teaching Walkthroughs

#### AUTHOR(S):

- **Ming-Chen Hsieh, Department of Medical Education, Buddhist Tzu Chi General Hospital, Hualien, Taiwan, Taiwan (Presenter)**
- Tsung-Ying Chen, Department of Medicine, College of Medicine, Tzu Chi University, Hualien, Taiwan
- Hsu-Chun Huang, Institute of Educational Administration and Evaluation, University of Taipei Department of Education, Taiwan

#### ABSTRACT

**Background:** Effective faculty evaluation is complex and requires the use of multiple measures-formal and informal, traditional and authentic-as part of a reasonable evaluation. The purpose of this research is to determine the most fair, authentic, and reliable elements to include in a “Clinical teaching Walkthroughs”, specifically in the clinical environment.

**Summary of Work:** The instructors researchers used clinical teaching walkthrough observation forms to track, evaluate, and monitor clinical teacher’s performance. The data were collected electronically and then compiled to present a picture of the developing skills and expertise of the clinical teacher.

**Summary of Results:** The clinical teacher candidates reflected on the data and used the information to set goals for continued development of teacher dispositions.

**Discussion and Conclusions:** The faculty used the observable data to better evidence the teacher candidate dispositions through their actions and interactions with medical students.

**Take-home Messages:** Formative supervision allows stakeholder to monitor, assess, and systemically address teacher performance with the intent of improving their practice. This process in helping them develop clinical teacher’s awareness of teaching as a scholarly activity, engendering an enthusiasm for excellence in teaching that may have otherwise been ignored. The evaluation of clinical teaching thus becomes a rewarding process, not overload event.



## #7HH Posters - Junior Doctor as Teacher

### 7HH07 (2177)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Relationship between teaching performance and resident's academic achievement

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Since 2014, the Postgraduate Studies Division of the Faculty of Medicine, National Autonomous University of Mexico, applies an online instrument to evaluate the performance of teaching competencies and identify the quality and development of the training process. The opinion of residents is gathered from 78 courses of the Unique Program of Medical Specialties.

**Summary of Work:** With 2017 data, we sought to predict the academic achievement, expressed in the scores of the annual exams, based on the opinion of the residents about their teacher's performance. 4293 residents at all levels and specialties participated in the survey. The SEVADEM online system was used to evaluate 1407 teachers.

**Summary of Results:** The generated models predict from 1 to 16% of the grade in a range of 72 to 80 of 100 possible score. The residents highlighted three attributes in the teacher: Personal Interaction (PI), Experience and Medical Knowledge (EMK), and Professional Ethics (PE). For 1st year, PI predicted scores between 70.6 and 80.8 in the exam; in year 2, in addition to the IP, the EMK stood out, forecasting grades from 69.1 to 81.9; in third and fourth year the PE also appeared and anticipated an academic performance of 71.6 to 82.7 and 72 to 82.6 respectively; finally, in the 5th year, the teachers professional authority was added, an attribute that predicted scores between 76.3 to 83.3.

**Discussion and Conclusions:** The academic performance in the annual exams is predicted in part by the opinion of the residents about their professors considering specific attributes in an evolutionary and qualitative development. According to the year of residence, they pass from the valuation of personal interaction with the teacher, to the appreciation of their medical experience and knowledge, up to the recognition of their ethic and professional authority.

**Take-home Messages:** According to the program's year, residents emphasize different teacher's attributes. Initially they value their constant presence, then their experience and medical knowledge, and in the last years residents recognize their professor's example as a professional besides their authority exercise.

## #7HH Posters - Junior Doctor as Teacher

### 7HH08 (821)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Effect of Peer Observation on Evidence-Based Medicine Curriculum

#### AUTHOR(S):

- **Cheng-Tau Chen, Department of Pharmacy Practice, Tri Services General Hospital, Taiwan (Presenter)**
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- Chih-Wei Huang, Department of Pharmacy Practice, Tri-Service General Hospital, Taiwan
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#### ABSTRACT

**Background:** Peer observation is an integral part of faculty professional development and is widely used for research of teachers. It helps both the teachers and observers to enhance the quality of teaching to improve in student's outcome. Peer observation of evidence-based medicine (EBM) curriculum was initiated to improve the EBM teachers teaching quality. It involved peers providing feedback using a standardized tool with verbal and written comments.

**Summary of Work:** Forty-seven peer observation sessions were completed in five cycles of EBM curriculum within two years. The questionnaires provided by peers and EBM teachers were reviewed and analyzed to provide a deeper understanding of the feedback. The peers and EBM teachers conduct a brief meeting after each cycle of curriculum to go through the feedback and discuss ways of improvement.

**Summary of Results:** Ninety-four peer observers provided constructive feedback to forty-seven EBM teachers. Among all teachers, thirty-six of them have achieved the score of 90 and above in a summative scale of 100 in total, while the remaining fell between 80 and 90. The observers provided formative feedback about merits and defects, three each, to the teachers on how to improve their teaching. Most teachers reflected the feedbacks as helpful in specific areas for improvement. Some of the teachers expressed being stressed during the observation but still found it useful for the enhancement of their teaching. One-third of the observers expressed that they have learned from the senior teachers during the observation session.

**Discussion and Conclusions:** Most feedback described the merits as well preparation and positive teaching attitude of the teachers in the curriculum. The defects, however, suggested that the teachers may interact more with the audiences, and provide more examples of EBM clinical application. All teachers positively supported this peer observation for it offers improvement in teaching and enhances professional as well as personal growth.

**Take-home Messages:** Peer observation benefits both the teachers and observers with the opportunity to mutually enhance the quality of their teaching practice in the EBM curriculum.

## #7HH Posters - Junior Doctor as Teacher

### 7HH09 (125)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Recharge activities preventing burnout in medical teachers

#### AUTHOR(S):

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- Pairoj Boonluksiri, Hatyai Hospital, Thailand

#### ABSTRACT

**Background:** Burnout is common in medical teachers. It is a psychosocial phenomenon of chronic stress in work environment such as excessive pressure, conflicts. Finding risk factors and prevention should be considered to maintain a happy life.

**Summary of Work:** A cross-sectional survey was conducted in clinical teachers at HMEC by convenient sampling during September-October 2018. Data collections by online questionnaire were performed for personal characteristics, workload hours, and recharge activities which mean special activities whose output are susceptible to measurement based upon a specific workload such as medical service and education. Primary outcome was burnout assessed by Maslach Burnout Inventory (MBI) comprising of 7-item exhaustion, 7-item depersonalization and 8-item personal achievement. Burnout was defined as binary outcomes (low and moderate-high level) from each component. Data analysis was performed by multiple regression analysis.

**Summary of Results:** Response rate was 63% (82 of 130 teachers). All medical specialties were recruited. Mean age was 40 years old with 44% male. Recharge activities were 58.5% such as traveling abroad & all over the country, meditation retreats, running race, etc. Mean risk scores of burnout were 8.9/42 of exhaustion, 5.1/42 of depersonalization, and 29.6/48 of personal achievement. Prevalence of burnout was 13.4%. Most specialties were surgery (2.4%) and ob-gyn (2.4%). Preventing factors were adequate leisure & sleep, happy family background and recharge activities ( $p=0.030$ ,  $0.005$ ,  $0.003$ , and  $<0.001$  respectively). On the contrary, risk factor was workload over 40 hours/week ( $p=0.018$ ). By multiple analysis, workload hours ( $OR=4.69$ ) and duration of clinical experience ( $OR=1.32$ ) were potential risks. Meanwhile, recharge activity was an influential preventing factor ( $OR=0.04$ ) which traveling abroad was most common.

**Discussion and Conclusions:** Prevalence of burnout in teachers varies from 9-23.8% depending on assessment tools. Burnout in this study is accordant with previous reports. Only 1 case is a high risk. Workload is an influential risk of burnout. Prevention was found that adequate sleep and recharge activity can reduce the level of depressive emotion.

**Take-home Messages:** Balancing heavy workloads and relaxation is essential to prevent burnout and promote a happy life. Recharge activity varying on his/her own favorite is one of helpful tools to release exhaustion.

## #7HH Posters - Junior Doctor as Teacher

### 7HH10 (999)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Feasibility, Impact and Moderators of Mindfulness-based Stress Reduction Intervention on Medical Staff in Taiwan

#### AUTHOR(S):

- Kuo Su Chen, Chang Gung Memorial Hospital, Taiwan (Presenter)
- Lynn Monrouxe, Chang Gung Memorial Hospital, Taiwan
- Yi-Hsuan Lu, Chang Gung Memorial Hospital, Taiwan
- Wan chan Wu, Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Research evidence suggests that mindfulness-based stress reduction (MBSR) is effective in alleviating stress and burnout in healthcare workers. However, its effect for Asian Buddhist healthcare professionals is rarely reported. Information regarding the moderators of an MBSR effect is also scant. Furthermore, engaging in an MBSR programme is time consuming. Its applicability in a busy hospital setting is questionable. We explored the feasibility, impact, moderators and component factors of an MBSR on Taiwanese healthcare professionals.

**Summary of Work:** A quasi experimental study with pre-post measurement of stress, resilience and burnout at baseline, post-intervention and 6th-month follow-up was undertaken. Twenty-three healthcare professionals received a standard MBSR; 23 age, gender and discipline matched controlled participants received no intervention. Video recording of class activities was online for the absent learner to review and self-learn. Qualitative interviews investigated the feasibility, impact and facilitators of the MBSR intervention.

**Summary of Results:** Overall class attendance rate was 56% (115/207) and average attendance was 5 classes (ranges 2–9). Personal, system and program factors contribute as barriers to MBSR practice/attendance. Quantitative data suggests stress, resilience and burnout all improved significantly post-intervention. A significant group by time interaction for stress, resilience and burnout was found. Previous experience and age, but not Buddhist religion and class-attendance rate, had moderating effects on the outcome. Qualitative interviews suggest improvements in mental and physical health after the MBSR intervention. The breathing exercise was reported to be the easiest, most frequently used, and most helpful component of the MBSR.

**Discussion and Conclusions:** Effects of standard a MBSR for Taiwanese healthcare professionals suggest similar effects to those within a Western population. Nationality and religion are not moderators of the MBSR effect. A significant advantage was achieved despite class attendance rate not being optimal, suggesting the effect of a MBSR might not be dose-dependent, or the lack of class attendance might be made up by online self-learning.

**Take-home Messages:** Worksite implementation of MBSR training in hospitals is helpful and recommended in Taiwan. Single breathing exercise training might be an effective alternative for healthcare professionals who are too busy to join a standard MBSR program.

## #7HH Posters - Junior Doctor as Teacher

### 7HH11 (2758)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The factors related to the burnout of the medical staff in tertiary care medical center

#### AUTHOR(S):

- Siriwut Kittiphothinant, Vachira Phuket Hospital, Thailand (Presenter)
- Sujaree Sungngoen, Vachira Phuket Hospital, Thailand

#### ABSTRACT

**Background:** The staff are main factors in the training of qualified physicians. Each medical school and tertiary care center which is a provincial hospital has different conditions, various factors related to the teaching staff. This study is looking for the factors that affected to the teaching quantities. The study was conducted on 20 medical staff by compare to the teaching in the first year of work with previous year. Related factor, workload, students and courses, family and social support and environment to find the prevention of this burnout.

**Summary of Work:** A cross-sectional descriptive study was conducted in Vachira Phuket Medical Education Center staff who was teaching more than 2 years in 2018. Self-report questionnaires consisted of demographic data, partial Maslach Burnout Inventory (MBI) questionnaires and working related factor. This study were analyzed by descriptive statistics as frequency, percentage and mean.

**Summary of Results:** The medical staff were aged 35-45 years old. Duration of teaching are in the average 7.7 years (SD 4.49). This study revealed that the level of satisfaction score of workload are in average ( $x=3.38$  SD 0.36), medical students and medical courses are in the average ( $x=3.60$  SD 0.24), family and social are in the average too ( $x=3.59$  SD 0.10). In working environment and private time is low ( $x=2.8$  SD 0.23) and in professionalism is high ( $x=4.36$  SD 0.09). In detail, low level satisfaction score in the medical record, facilities in the hospital, intern as colleague and private time,  $x=2.33, 2.83, 3.00, 3.27$ , respectively.

**Discussion and Conclusions:** Working as a medical professor for a long time associated with reducing the teaching time, especially lecture, teaching round and assignment feedbacks. Factors of burnout that are derived from enthusiasm for patient care, evaluation results, fatigue from medical records and disappointment in intern. Precipitating point were hospital facilities and lack of private time.

**Take-home Messages:** The instructor should arrange a new teaching style to promote more interesting and would be allowed them to be more enthusiastic in the learning. Executives should clearly divide workloads, and improve the hospital environment for the medical staff to reduce their stress.



## #7HH Posters - Junior Doctor as Teacher

### 7HH12 (1368)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Near-peers with benefits: a foundation doctor led revision course for medical students preparing for finals examinations

#### AUTHOR(S):

- William Dace, North Bristol NHS Trust, UK (Presenter)
- Ellen Haire, North Bristol NHS Trust, UK

#### ABSTRACT

**Background:** Near-peer led teaching is a growing aspect of medical education, beneficial to both teacher and student. Undertaking teaching is a requirement for UK foundation doctors. Many students see the foundation trainee as their most important clinical trainer. However, opportunities for formal foundation doctor teaching is variable, and UK foundation doctors do not routinely receive training on how to teach.

**Summary of Work:** The authors designed and implemented an exam-focused teaching course for medical students.

**Aims:** - To evaluate the impact of near-peer teaching on both students and teachers - To show the importance of feedback in improving medical education

**Methods:** - Motivated foundation doctors were selected as teachers. - Course 1 consisted of 10 sessions of didactic teaching and multiple choice questions (MCQs). Students provided feedback after each session. - A second course was implemented the following year. An end of Course 2 survey was completed by students and teachers.

**Summary of Results:** - In course 1, every student passed their finals. Feedback was positive; with teacher enthusiasm and the relaxed environment highlighted. Student feedback prompted addition of 2 extra sessions and inclusion of 15 MCQs with answer sheets, in Course 2.

- All students found Course 2 enjoyable, relevant, and MCQs useful for revision. 100% found teachers knowledgeable and enthusiastic.

- Teachers reported myriad reasons for teaching. 66% of teachers had no previous training in how to teach; the same 66% cited prior concerns about teaching.

**Discussion and Conclusions:** - All students found the course enjoyable and beneficial for their finals preparation.

- Foundation doctors are capable of delivering high-quality teaching, and recognise the benefits of teaching for personal development.

- The majority of participating teachers had prior concerns about teaching due to lack of formal training in how to teach.

**Take-home Messages:** - Near-peer led teaching is beneficial to students as it is more exam relevant and teachers are perceived as more approachable.

- For teachers it allows exposure to teaching at an early stage in their career, which is beneficial for personal development.

- More formal training in how to teach is required for UK junior doctors.

- Near-peer teaching should be widely introduced in medical education.

## #7HH Posters - Junior Doctor as Teacher

### 7HH13 (3011)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A Junior doctor-led revision programme for finals: what are the benefits?

#### AUTHOR(S):

- Katherine Francis, Great Western Hospital, Swindon, UK (Presenter)
- Helena Davies, Great Western Hospital, UK

#### ABSTRACT

**Background:** Junior doctors frequently teach informally on the wards. Medical students value this teaching and find the tutors approachable due to their recent graduation from medical school. Students can become overwhelmed revising for finals due to the large volume of material to revise. To focus their revision, a 10-week revision course was created with 30 hours of teaching. The course concentrated on the main specialties of finals, based on the curriculum.

**Summary of Work:** A 10-week evening teaching programme was created for the final year Bristol and Oxford medical students. Previous literature helped us design the course to enable productive and focused sessions. A 15-question pre-course questionnaire was devised to ascertain baseline data. The questionnaire was repeated after the course to quantify the improvement in attainment. Anonymous feedback was collected after each session using a QR code. Feedback was sent to the tutors for their own personal reflection of their teaching. The students and tutors were sent anonymous surveys after the programme to determine the benefits, downfalls and potential improvements of the teaching programme. This helped to generate a revision programme for future generations of students.

**Summary of Results:** Students improved in 13 out of 15 questions in the post-finals revision questionnaire. The average mark was 61% on the post-finals revision programme questionnaire compared to 38% on the pre-finals revision programme. Students would recommend the course to peers and tutors found teaching a valuable experience.

**Discussion and Conclusions:** Junior-doctor led teaching enables doctors to develop and establish their teaching early in their career. Feedback provided by students enabled tutors to reflect on their teaching method and process. Students find having junior doctors who have recently graduated comparable to consultant led teaching, however find the tutors more approachable as they are near-peers.

**Take-home Messages:** 1. Junior doctor-led teaching programmes can be mutually beneficial both for the tutors and the students. 2. Doctors value having the opportunity to teach and receive feedback in their early career, allowing them to develop the doctor as a teacher. 3. Students find junior doctors pitch the teaching at an appropriate level that allows them to learn in their zone of proximal development.

## #7HH Posters - Junior Doctor as Teacher

### 7HH14 (2972)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Teaching of Undergraduate Medical Students by Paediatric Trainees

#### AUTHOR(S):

- Emily Botcher, University Hospitals Coventry and Warwickshire, NHS Trust, UK (Presenter)
- Thomas Moore, University Hospitals Coventry and Warwick, UK
- Prakash Satodia, University Hospitals Coventry and Warwick, UK

#### ABSTRACT

**Background:** The new Paediatric curriculum (“Progress”) highlights a need for trainees to be involved in planning and delivering learning events. However there is little emphasis on delivering undergraduate teaching. Recent feedback from University of Warwick medical students completing their Child Health block at University Hospital, Coventry (UHCW) highlighted problems in the number, quality and timeliness of teaching sessions. Reasons ranged from lack of exposure to bedside teaching to the workload of consultants. They found benefit from sessions with junior doctors. We aimed to explore the experiences in undergraduate medical education of paediatric trainees currently working at UHCW and to discover the barriers that experienced when teaching medical students, with a view to improving the learning experience.

**Summary of Work:** A SurveyMonkey was distributed to paediatric trainees at UHCW via the departmental WhatsApp groups. Data pertaining to training grade, prior experience of Undergraduate Medical Education, and what perceived barriers to teaching was collected. Participants were also asked what would facilitate teaching.

**Summary of Results:** 13 trainees responded, varying from ST1 to ST6, with three clinical fellows in addition. All had taken part in bedside teaching with fewer than half contributing to lectures, tutorials, assessments, and case-based learning. The majority of respondents felt workload and lack of time were the main barriers to teaching, with a lack of understanding of the curriculum and a lack of opportunities being significant. Trainees felt protected time for teaching along with a better understanding of the student curriculum would help facilitate their teaching.

**Discussion and Conclusions:** In conclusion, trainees are keen to teach and for protected time as teachers to be included in their job plans as part of a teaching rota. Information regarding student curriculum and learning outcomes could be shared at induction. Health Education England/General Medical Council may therefore consider the implementation of mandatory weekly teaching sessions into trainees’ rotas.

**Take-home Messages:** Trainees are keen to teach; Heavy workload and a lack of opportunities are the main barriers.

## #7HH Posters - Junior Doctor as Teacher

7HH15 (3236)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Can't Teach, Won't Teach: improving doctors' teaching performance and development

#### AUTHOR(S):

- Dhanya Pillai, University Hospitals Coventry and Warwickshire, UK (Presenter)
- Arwa Meki, NHS, UK

#### ABSTRACT

**Background:** Good Medical Practice states doctors “should be prepared to contribute to teaching and training doctors and students”. Furthermore, substantial teaching experience is needed for specialty training applications. However, Medical Schools differ widely in provision of medical teacher training which influences junior doctors' teaching performance and development.

**Summary of Work:** The aim of this study was to determine the importance that doctors attach to the role of teaching, the relationship between confidence and involvement in different teaching roles, and how useful medical school was in developing that role. A cross-sectional study was conducted. A paper questionnaire was distributed to all 34 Foundation Year 1 trainees at University Hospital Coventry and Warwickshire. The questionnaire incorporated 5-point Likert scales, free text responses, and closed questions. Descriptive statistical analysis and linear regression were used.

**Summary of Results:** The response rate was 88%. Findings showed junior doctors are aware of the importance of their teaching role. There was a positive relationship between confidence in the various teaching roles and involvement in these. Doctors who felt medical school training was particularly useful in developing their teaching role felt more confident and were more involved in these various roles than doctors who found their medical school training not useful. Challenges in the development of a teaching role were: opportunities to teach, time, and knowledge. Structured opportunities to practice teaching and ways to increase knowledge on teaching skills were highlighted as ways to improve teaching performance.

**Discussion and Conclusions:** Developing high quality teaching medical professionals is vital in the clinical setting. This is reinforced by an emphasis on continuing professional development and inter-professional learning and working. Junior doctors are aware of the importance of their teaching role; however they encounter challenges affecting their confidence and involvement in the various teaching roles. Medical schools should incorporate medical teacher training into curricula and foundation training must ensure structured teaching opportunities to address this deficit and empower tomorrow's doctors.

**Take-home Messages:** To improve performance and development of doctors in their roles as teachers, medical school curricula and training programmes need to address and overcome the challenges reported in this study.

## #7HH Posters - Junior Doctor as Teacher

### 7HH16 (1447)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### The Near Peer Mentor: Perspectives of Mentors and Mentees in Postgraduate Medical Education

#### AUTHOR(S):

- Matthew Aldridge, North Bristol NHS Trust, UK (Presenter)
- Thomas Cairns, North Bristol NHS Trust, UK
- Katherine Finucane, North Bristol NHS Trust, UK

#### ABSTRACT

**Background:** Mentoring for doctors is associated with improved physical and psychological health, better support and enhanced professional relationships.[1] The benefits of mentoring have been demonstrated for schemes with both dyad and peer-based structures,[2] with formalised arrangements and training for mentors associated with greater satisfaction.[2] This focus on welfare is particularly important given increased recognition of stress, anxiety and depression amongst doctors in training.[3]

**Summary of Work:** At North Bristol NHS Trust (NBNT) the Department of Postgraduate Medical Education have established a near-peer mentoring scheme for postgraduate year (PGY) 1-2 doctors. This scheme offers mentoring by volunteer PGY5+ doctors in training to any PGY1-2 doctors who request this for the duration of their placement at North Bristol NHS Trust. Training for volunteer mentors is provided on a regular basis by a senior consultant psychologist with extensive mentoring experience.

**Summary of Results:** Out of all PGY1-2 doctors at NBNT (n=107), 42 (39%) requested and have been allocated a PGY5+ mentor. Feedback from our scheme to date has been positive, with 71% of PGY1-2 mentees (response n=7) and 63% of PGY5+ mentors (response n=16) reporting overall benefits from participation. Mentees described improvements in work confidence (71%), career planning (86%) and support (86%). Mentors described increased knowledge about mentoring (88%), enhanced job satisfaction (75%) and greater insight into the training experiences of others (81%).

**Discussion and Conclusions:** We are encouraged by our early results and will continue to refine this scheme going forward. Our results demonstrate demand for mentoring amongst PGY1-2 doctors as well as demonstrating good satisfaction with our near-peer approach.

**Take-home Messages:** A near-peer mentoring scheme for PGY1-2 doctors is a well-received intervention with benefits to mentors as well as mentees. This approach could easily be adopted by other organisations.

**References:** 1) Wilson G, Larkin V, Redfern N, Stewart J, Steven A. Exploring the relationship between mentoring and doctors' health; JRSMB. 2017 May;110(5):188-97.

2) Kashiwagi DT, Varkey P, Cook DA. Mentoring programs for physicians; Academic Medicine. 2013 Jul 1;88(7):1029-37.

3) Downey GB, McDonald J, Downey RG, McDonald JM. Welfare of anaesthesia trainees; Anaesth Intens Care. 2017 Jan 1;45(1).



## #7HH Posters - Junior Doctor as Teacher

7HH17 (2737)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Effectiveness of Resident-as-Teacher programmes in family medicine: A systematic review

#### AUTHOR(S):

- **Hervé Maisonneuve, Consultant, France (Presenter)**
- Raquel Correia, Faculté de Médecine Université de Reims Champagne ardennes, France
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#### ABSTRACT

**Background:** Research on Resident-as-Teacher programmes effectiveness should help to determine the optimal type of intervention, content, delivery, and duration. While RaT programmes appear to lead to changes in attitudes towards and perceptions of teaching, evidence of their effectiveness is insufficient due to the lack of rigorous study design. Assessing resident needs during each level of residency is essential to develop competency driven RaT programmes with the right content and proper assessment. In France, the resident has a new pedagogical role: to help and assist pregraduate medical students. Before implementing this objective, however, guided and clear instructions should be defined

**Summary of Work:** We performed a systematic review of Resident-as-Teacher (RaT) programmes in family practice and appraised their effectiveness. Our secondary objective was to suggest strategies according to the new teacher role of medical residents in France. We updated a 2008 systematic review of RaT programmes by searching five databases up to March 2018. We questioned French experts regarding the future implementation of the new resident role: to help and assist pre-graduate medical students that are part of the team where the resident is completing their internship training.

**Summary of Results:** We included one study and indicated that there is a lack of research on the effectiveness of RaT programmes. This well-designed study showed that feedback on resident teaching did not influence it. The eight conclusions of the previous systematic review remain unchanged, and the effectiveness of the RaT programmes still needs to be proven.

**Discussion and Conclusions:** The eight conclusions of the previous review remain unchanged, and the effectiveness of the RaT programmes still needs to be proven. This is mainly due to the lack of a proper outcome assessment, as well as of a rigorous study design. The nine French experts we questioned observed that the implementation of medical education needs to be improved in France. They confirmed that no plan currently exists to effectively prepare the new resident for their teaching roles.

**Take-home Messages:** RaT programmes should be better defined, and the lack of research showing their effectiveness needs to be addressed.

## #7HH Posters - Junior Doctor as Teacher

### 7HH18 (1803)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### The effectiveness of “educational teams” for developing the teaching skills of senior residents

#### AUTHOR(S):

- Shunsuke Kosugi, Aso Iizuka Hospital, Japan (Presenter)
- Tadayuki Hashimoto, Hashimoto Municipal Hospital, Japan

#### ABSTRACT

**Background:** In our department, since 2017 we have been developing teams consisting of an attending physician, a senior resident, and two junior residents called “educational teams” which are focused on developing the teaching skills of senior residents as residents-as-teachers (RaTs). Two years have passed since the teams started, so we conducted a survey to identify the effectiveness of the teams for developing the teaching skills of senior residents. We developed teaching entrustable professional activities (EPAs) for residents and reported about it at AMEE 2018, and we have used it for this research.

**Summary of Work:** To clarify effectiveness, we created a questionnaire consisting of 14 questions about the effectiveness of the team in developing teaching skills from the perspective of the EPAs, and sent it to 8 survey respondents who had been part of an “educational team” within the past two years. The response rate was 87.5%.

**Summary of Results:** The overall perception that belonging to the team contributed to their own growth of teaching skills had a mean score of 3.57 (Likert scale 1-4). The responders felt the structure of the team had contributed the most to their growth because the team had a young attending physician who taught how to teach and also had a rule limiting the number of patients in their charge. They felt development in their teaching skills for 7 of 10 activities in the EPAs. The most popular activity they felt developed through the team was “Instruct residents in ward rounds”. The other 3 activities were not felt effective.

**Discussion and Conclusions:** The survey revealed that a team focused on developing teaching skills was effective for the growth of the teaching skills of senior residents. However, the team was not effective for learning 3 of the activities in the EPAs. The reason why they were not effective was that there was no chance to learn this content through the team, so another system is needed for teaching them.

**Take-home Messages:** Residents can develop their teaching skills through an “educational team”.

## #7HH Posters - Junior Doctor as Teacher

### 7HH19 (2050)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Enhancing the professional development of junior doctors during clinical teaching fellowships

#### AUTHOR(S):

- Jonathan Fox, Imperial College London, UK (Presenter)
- Laura Wynn-Lawrence, Imperial College London, UK
- Kathleen Leedham-Green, Imperial College London, UK
- Ann Chu, Imperial College London, UK

#### ABSTRACT

**Background:** Clinical Teaching Fellows (CTFs) have become an integral component of UK medical education faculty. These roles allow junior doctors to focus on developing as a teacher and participating in educational research. The potential opportunities for professional development are significant but there is great disparity between individual jobs. Clinical commitments, educational focus, research opportunities and specialty association all vary depending on the specific needs of individual faculties. In this study we aim to evaluate the educational opportunities that these CTF jobs provide to junior doctors. Anecdotal evidence suggests that these potential benefits include: completion of formal education qualifications; development of special interests; academic and research participation; experiential learning from teaching requirements; conference attendance and presentation of work; and creation of innovative teaching strategies.

**Summary of Work:** This evaluative study will comprise of an online questionnaire distributed to CTFs associated with Imperial College London. The survey will be sent via email to current CTFs and previous CTFs dating back to 2014 (n=190). The initial survey has been piloted with current CTFs and will be distributed to the cohort in February 2019. The questionnaire will provide both quantitative and qualitative data which will allow statistical analysis and generate themes for discussion.

**Summary of Results:** The questionnaire has been designed to provide demographic data and to evaluate opportunities for professional development that CTFs have experienced. We will also explore how these opportunities have influenced further clinical, educational and academic career progression amongst previous CTFs. The evaluation data will also give feedback on areas of potential improvement.

**Discussion and Conclusions:** CTFs are an integral part of many UK education faculties but they also offer junior doctors' opportunities for professional development. We aim to use the experiences of CTFs to provide insight and initiate narratives for further discussion. Through this we can ensure junior doctors maximise the potential benefits they offer whilst providing an invaluable resource for faculties.

**Take-home Messages:** CTF jobs are now well established within UK education faculties but individual jobs vary. Teaching fellowships offer opportunities for both educational and clinical professional development. Understanding the opportunities CTFs experience will help maximise outcomes for junior doctors.

## #7HH Posters - Junior Doctor as Teacher

### 7HH20 (2085)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A structured and integrated paediatric near-peer learning programme (PaedsPALs) led by foundation year doctors for undergraduate students

#### AUTHOR(S):

- **Natasha G, Addenbrooke's Hospital, Cambridge, UK (Presenter)**
- Cristina Matei, Lister Hospital, UK
- Michelle Arora, Addenbrookes Hospital, UK
- Diana Wood, University of Cambridge, UK

#### ABSTRACT

**Background:** Many foundation year (FY) doctors are keen to develop a medical education interest, but are an underused resource due to time constraints, short rotations, lack of previous experience and lack of confidence in knowledge of the educational material. However, students value teaching from FY doctors and find it useful to complement consultant-led teaching. Near-peer teaching is a validated teaching model that is integrated into the curricula of many medical schools. We successfully developed a structured paediatric near-peer assisted learning (PaedsPALs) programme run by FY doctors for undergraduate students on paediatric rotations.

**Summary of Work:** We piloted PaedsPALs at a district general hospital, with students from two medical schools with similar course structures (Cambridge and UCL medical schools). We designed clear intended learning outcomes, which aligned to content and assessment. Case-based sessions were delivered by FY doctors to consolidate learning experiences during the attachment. We then designed and ran a formative mock-OSCE at the end of the placement. Quantitative and qualitative feedback was obtained from students and FY doctors using questionnaires.

**Summary of Results:** Through participating in PaedsPALs, FY doctors' confidence in delivering paediatric teaching increased by 40%. All FY doctors valued the exposure to medical education PaedsPALs provided, which increased their desire to get involved with further teaching. The programme also provided a supervised, enjoyable environment to gain their first teaching experiences and increase confidence in delivering further sessions, by helping them "pitch teaching to students of differing levels". Students enjoyed the programme, describing case-based sessions as "very interactive" and having a "great structure". They found the mock-OSCE "useful and enjoyable" and "a great way to round off a great placement".

**Discussion and Conclusions:** FY doctors find it challenging to get involved in teaching due to lack of time, knowledge of the specialty, and confidence in delivering teaching. This was overcome by providing FY doctors with structured teaching materials with clear learning outcomes, enabling the delivery of high quality teaching in a time efficient manner.

**Take-home Messages:** PaedsPALs facilitated FY doctors can gain exposure to teaching in a supportive environment and further piqued their interest in medical education.

## #7II Posters - Curriculum Subjects 3

7II01 (369)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Health Literacy - achieving better practices for patient-centered communication

#### AUTHOR(S):

- Tzu-I Tsai, National Yang-Ming University, Taiwan (Presenter)
- I-Ju Chen, National Yang-Ming University, Taiwan
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- Shouu-Yih D. Lee, Department of Health Management and Policy, School of Public Health, University of Michigan, USA

#### ABSTRACT

**Background:** Patient-center communication represents the most important enabler of patient-centered care and has been identified as one of essential competencies for health care professionals. Despite communication skills has become an explicit component of medical education curricula, patients consistently report that their informational needs remain unmet. To better understand what essential communication skills should be taught for future healthcare professional to delivering patient-centered communication, the purpose of this study was to explore medical educators' reflections on teaching and identify the elements of effective curriculum design for teaching patient-centered communication.

**Summary of Work:** This qualitative study conducted 25 individual in-depth interviews with a wide range of educators and clinicians in various professional backgrounds, including medicine, nursing, dentistry, pharmacy, nutrition, communication, and health management in Taiwan.

**Summary of Results:** Directed content analysis was applied and emerged four major domains constituting best practice for patient-centered communication: students' characteristics, curriculum design, role modeling in medical education, and structural support.

**Discussion and Conclusions:** Our study reveals that teaching and assessing patient-centered communication remains a complex and underrepresented component of healthcare professions education in Taiwan. Health literacy as a core element of patient-centered communication training has emerged from different healthcare professional groups. Health literacy competence consists of a set of knowledge, attitude and skills the healthcare professionals required when encountering patients with low health literacy. Most healthcare profession programs did not cover health literacy in health communication curricula and the vital need for improved curriculum design. An added critical dimension is faculty understanding of the importance of health literacy for communication in medical encounter, and their commitment to helping students develop these skills.

**Take-home Messages:** Basic communication skills are insufficient to prepare healthcare professionals' patient-centered communication competence. Efforts to enhance teaching of patient-centered communication skills to health professionals likely will require the element of health literacy across the continuum of undergraduate, postgraduate and continuing education.



## #7II Posters - Curriculum Subjects 3

### 7II02 (1381)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Physical activity knowledge, attitudes and behaviours of pre-clinical medical students in Australia

#### AUTHOR(S):

- Rhys Kelly, Deakin University - School of Medicine, Australia (Presenter)
- Sam Hoffmann, Deakin University - School of Exercise and Nutrition Sciences, Australia
- Shannon Sahlqvist, Deakin University - School of Exercise and Nutrition Sciences, Australia
- Peter Kremer, Deakin University - School of Exercise and Nutrition Sciences, Australia
- David Lipman, Deakin University - School of Medicine, Australia
- Scott McCoombe, Deakin University - School of Medicine, Australia

#### ABSTRACT

**Background:** Physical activity (PA) is important for chronic disease management, yet population PA levels in Australia, and globally, are low. Medical practitioners play an important role in promoting and prescribing PA as a preventative measure and treatment for chronic disease. Current and future doctors can provide patients with PA advice and counselling whilst role modelling appropriate behaviours. However, it is unclear if medical students currently receive adequate PA training in their medical training. Few studies have examined PA within Australian Medical Schools so our study aimed to investigate PA knowledge, attitudes and behaviours among current Australian medical students.

**Summary of Work:** A sample of 111 medical students from one Australian University completed an online questionnaire that captured data on demographics, PA knowledge and training, general attitudes towards PA, and personal PA habits. Data were summarised using descriptive statistics and differences assessed using ANOVA and chi-square tests.

**Summary of Results:** Most students had positive attitudes towards PA participation and curriculum inclusion, with the majority believing PA was important for their future careers. However, many were unsatisfied with their current education on the role of PA in the prevention and treatment of chronic disease, indicating gaps within current medical curricula. Students with high self-reported PA levels had a superior understanding of the current PA guidelines.

**Discussion and Conclusions:** The findings from this study established a baseline measure of medical students' PA knowledge, attitudes and behaviours, highlighting the need for integration of more PA education within the medical curriculum. In addition, continued support and encouragement for student engagement in PA is required in the crowded curriculum. This study provides a foundation to influence changes to existing Australian medical school curricula whilst showing evidence for future prospective studies to be undertaken. Additionally, it should provide evidence for medical students to incorporate PA into their future lives and clinical practice.

**Take-home Messages:** There is a clear role for the prescription of PA in treatment of chronic conditions as well as a desire by most medical students to participate and prescribe. This study shows a clear gap between this aspiration and what is currently included in Australian medical school curricula.

## #7II Posters - Curriculum Subjects 3

### 7II03 (3347)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Public Health Exchanges for Students

#### AUTHOR(S):

- **Anna Herzeg, International Federation of Medical Students Associations (Presenter)**
- Katja Čič, International Federation of Medical Students Associations
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- Tatiana Zebrova, International Federation of Medical Students Associations
- Elina Osi, International Federation of Medical Students Associations

#### ABSTRACT

**Background:** In spite of how Public Health is a significant part of our health systems and health itself, it is broadly neglected in medical curricula worldwide. Hence, the International Federation of Medical Students' Associations (IFMSA) decided to launch Public Health Exchanges. They aim to offer student-driven and student-oriented learning opportunities in the field of Public Health in collaboration with stakeholders in the global/public health arena. Such programs will thoroughly empower healthcare students to take on future leadership roles in public health projects and advocacy management, in a culturally sensitive and community-oriented way.

**Summary of Work:** IFMSA started to actively work on Public Health Exchanges in 2017 and signed the first round of contracts in March 2018. We sought to achieve interprofessional collaboration and a sustainable platform for health science students interested in Public Health to go on an international exchange, with Regulations and Guidelines to ensure academic quality and longevity of such exchanges. We developed a standardized reporting system to make the perfect tuning to our program and increase credibility through honest statements from students who participated in the exchange program. Once reports are submitted, participants receive their certificate to ensure the implementation of the system.

**Summary of Results:** The first round of contracts led to the successful creation of 16 exchange opportunities that are being carried out in the year 2018/19. The exchanges allow for a wide range of settings relevant to One Health and different health-oriented institutions and have periodically been evaluated using our reporting system in terms of work done, theoretical education, exposure to public health issues and logbook efficacy.

**Discussion and Conclusions:** The outcomes of the evaluation process will be used to further enhance the concept of empowering students in the field by gaining expertise in practical Public Health work. We also aim to ensure facilitation of south-north collaboration and give students the opportunity to comprehensively understand epidemiological and health system differences.

**Take-home Messages:** Public Health remains lacking prioritization in our studies. Thus, IFMSA confirms the urgent need to equip our students with knowledge and skills to advocate for public health issues in their communities.

## #7II Posters - Curriculum Subjects 3

7II04 (2752)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Gender Differences in Consciousness of Gender Stereotypes among medical students in Taiwan

**AUTHOR(S):**

- Sui-Lung Su, School of Public Health, National Defense Medical Center, R.O.C (Presenter)

**ABSTRACT**

**Background:** In recent years, gender equity education becomes an important issue in Taiwan. In many Medical school, courses related to gender issues are arranged in general education centre, which becomes a critical resource for students to know more about gender. In order to develop a more gender sensitive education, the first step is to understand the gender bias on Medical school.

**Summary of Work:** The gender equality consciousness discussed here included knowledge of gender stereotypes. We analyzed the data from the study on gender equality consciousness that was executed by the Gender equality Committee at National Defense Medical Center of Taiwan in 2016. There were 180 valid cases. SPSS was utilized to implement t-tests, chi-square tests and residual analyses.

**Summary of Results:** Significant findings included: 1) Females and males had differences in gender consciousness and females have higher gender self awareness 4% ( $p=0.002$ ).

**Discussion and Conclusions:** Through the first survey, this study obtained Females and males had differences in gender consciousness and females have higher gender self awareness in the National Defense Medical Center.

**Take-home Messages:** In the future, we can collect the first-grade college students gender equality education curriculum, analyze the influence of students gender equality awareness after class, and plan individualized curriculum. Consciousness, echoes the policy of the Ministry of National Defense, implements the policy guidance and norms of gender equality, and jointly creates a harmonious and pleasant working environment.

## #7II Posters - Curriculum Subjects 3

7II05 (1521)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Interactive methods to teach and learn about violence against women

#### AUTHOR(S):

- **Vander Guimarães Silva, Faculdade de Medicina de Petrópolis, Brasil (Presenter)**
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- Lais Desirré, Faculdade de Medicina de Petrópolis, Brasil
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#### ABSTRACT

**Background:** Violence against women (VAW) is a serious and endemic problem in the world. Despite the legislation in force every two hours a woman is murdered in Brazil.

**Summary of Work:** In view of the need to adapt the curriculum of Medicine, working the content in a creative and interactive way, we chose to adopt an active learning methodology to approach the subject with students of the third year of Medicine course in the Gynecological and Obstetric Semiology discipline. We divided the students into groups, and asked them to produce videos of up to four minutes on the subject of violence against women. The students presented their videos and discussed the creative experience.

**Summary of Results:** 40 videos were produced on the different categories of VAW: physical, moral, sexual, patrimonial and psychological violence. These videos were presented during a session dedicated to the subject and were added to other forms of presentation: lectures with the use of PowerPoint, interviews with experts, drawings, dramatizations, etc.

**Discussion and Conclusions:** The use of an innovative methodology to teach learning a social and public health problem has moved closer to the language and the dynamic form of communication of the public in question. The students made observations about the methods used, their experiences in organizing the work, the sensations experienced and the knowledge learned from the researches carried out. During the presentations the other students made interventions and opined about what they saw and heard. The VAW was better understood and lived from the knowledge generated by the students themselves, which brought in a more dynamic and contemporary reading of the theme. We realized that the technique was well accepted and could be applied to other areas of medical education that demand greater sensitivity in the transmission of knowledge.

**Take-home Messages:** • VAW is a global problem • It is important to discuss VAW in medical schools • It is necessary to use a dynamic and current language to talk about the subject • The active methodological approach was able to sensitize students to such a sensitive topic • This methodology can be applied in other areas of knowledge in medical education.

## #7II Posters - Curriculum Subjects 3

7II06 (2293)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Small group learning to aid broaching of lifestyle choices and advise with patients in the Physician Associate Programme

#### AUTHOR(S):

- Sajeel Din, Medical Education iBSc, Barts and the London, Queen Mary, University of London, UK (Presenter)

#### ABSTRACT

**Background:** In 2016/17 there were 617 thousand admissions in NHS hospitals where obesity was recorded as the primary or a secondary diagnosis. Research currently shows GPs, Nurses and Medical students feel unequipped in delivering lifestyle advice to make changes to obese patients. This is likely to also be a problem with Physician Associates (PA), who have only recently been added to a voluntary register curriculum that currently does not require PAs to recognise and manage patients with obesity. It is possible that the lack of awareness that PAs have in this field is because of the duration of their course, which is only two years. This theory has not been previously studied within the healthcare profession (HP) in the UK, and thus, merits further exploration.

**Summary of Work:** This study aims to highlight and explore current attitudes and knowledge in PA students in managing this group of patients. To aid this, a small group Peer Assisted Learning (PAL) session shall be used to further develop their knowledge and reveal gaps in this area of preventative medicine. Furthermore, highlight a different approach that can target these HPs with their increased flexibility in practice could be an immediate solution to a building problem.

**Summary of Results:** The analysis and result should reveal any gaps in the current taught curriculum regarding lifestyle advice. It explores current experience feelings and knowledge which may vary based on experience the PAs have previously had during their previous year of study.

**Discussion and Conclusions:** Following on from the lack of standard practice in delivering lifestyle advice to patients from other healthcare professions. PAs too experience difficulty in delivering this. The PAL session in an early addition to the current taught curriculum to aid PAs in managing this group of patients. Their current ability to not be able prescribe medication for any group of patients will allow them to further explore this area and encourage them to devise better methods and tailored advice to make changes to their lifestyle before this becomes a co-morbidity to them.

**Take-home Messages:** Development in curriculum for this to be delivered. Addressing current attitudes towards which HPs responsibility is this. Using PAL as an alternative.



## #7II Posters - Curriculum Subjects 3

7II07 (630)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Structure and agency: education for behavior change

#### AUTHOR(S):

- Richard Ayres, Plymouth Peninsula Schools of Medicine and Dentistry, UK (Presenter)
- Sam Regan de Bere, Plymouth Peninsula Schools of Medicine and Dentistry, UK

#### ABSTRACT

**Background:** There are new words entering the Medical Education Lexicon. “Health promotion” we know, but “wellness” is less familiar, “advocacy” definitely different and what about “empowerment”? In the UK the latest (2018) version of the General Medical Council “outcomes for graduates” these few words are transformative. The notion that the role of doctors includes promoting “wellness” just as much as dealing with illness, and that this requires “empowerment” and “advocacy” implies a sea change in what medical schools must teach. It greatly extends the “bio-psycho-social model that itself met a lot of resistance, but has for some time informed most modern medical school teaching.

**Summary of Work:** In the Peninsula Medical School in the SW of the UK, Population Health is a theme running through the curriculum. We have replaced a lecture on health promotion with an interactive session held in a rehabilitation project for people affected by substance misuse. The entire first year group now travels out from the safe confines of the university campus to Hamoaze House, a wonderful project sited in the neighbourhood of highest deprivation in Plymouth. The lecturer is replaced with service users of the project, who work with students in small groups. They are the true experts

**Summary of Results:** “this truly affirmed that a career in medicine is right for me.” “Within only minutes of being at Hamoaze House was I able to admire how well the staff worked not only with the service users but each other. It was inspirational” “I learned so much from..... some of the things that he had faced were just unimaginable to me, his story was just amazing”.

**Discussion and Conclusions:** Changing from knowing about “social determinants of health” to challenging inequality, from informing patients about ways to promote health to empowering them, and from empathy to advocacy arguably represents a paradigm shift in medicine. We report here on a curricula development that encompasses those principles and has empowered both students and patients.

**Take-home Messages:** We face a paradigm shift in how doctors react to social determinants of health; Medical education must respond to that challenge; People with complex needs who have achieved change are the experts.



## #7II Posters - Curriculum Subjects 3

7II08 (2844)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Digital Health - a gap in medical education

#### AUTHOR(S):

- Lina Mosch, European Medical Students' Association (Presenter)
- Justinas Balčiūnas, European Medical Students Association, Germany
- Felix Machleid, Technical University of Munich, Germany
- Robert Kaczmarczyk, Technical University of Munich, Germany
- Doreen Johann, Humboldt University of Berlin, Germany
- Finn von Maltzahn, RWTH Aachen University, Germany

#### ABSTRACT

**Background:** The digitalization of healthcare is accompanied by high hopes and expectations aimed at improving the way health services are delivered. Central to this dynamic are questions about the role healthcare professionals are going to play and what competencies and skills will be required. To get a better understanding of these trends we assessed medical students' perceived knowledge and opinions towards eHealth, the status quo of implementing eHealth in medical education and their most pressing needs.

**Summary of Work:** We launched an online, anonymous, self-administered survey targeted towards medical students throughout Europe and received a total of 451 responses. The survey included both, quantitative and qualitative questions covering two major aspects: (i) students' opinions on eHealth in general and (ii) students' experiences with eHealth in medical education. Analysis of quantitative data was performed using statistical software R. Qualitative data was analyzed applying a grounded theory approach with inductive category formation using MAXQDA software.

**Summary of Results:** The majority of respondents see more or mainly advantages in the use of digital health. 53% of respondents evaluate their eHealth skills as poor or very poor. 40% feel prepared to work in the digitized healthcare system. Medical students see the reason for not feeling prepared is a lack of education, while 85 % agree or strongly agree to eHealth being more implemented in the medical curriculum.

**Discussion and Conclusions:** These results indicate a gap between an overall willingness of medical students to become key players in the digitalization of healthcare and a lack of education they receive by their faculties. Thus far, medical education in digital health does not address medical students' needs. To support healthcare professionals in becoming key players in the digital transformation of healthcare, the field of medical education needs to: (i) implement educational formats on eHealth into the curriculum and (ii) create platforms for medical faculties to exchange best practices on digital health education.

**Take-home Messages:** Today, medical education does not address students' needs regarding digital health. To prepare them for a digitalised healthcare system medical education has to implement educational formats on digital health into the curriculum.

## #7II Posters - Curriculum Subjects 3

7II09 (372)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Human Factors Training for Undergraduate Medical Students

#### AUTHOR(S):

- Aliyah Choudhary, NHS, UK (Presenter)
- Amit Chauhan, Good Hope Hospital, UK
- Hemant Ojha, Good Hope Hospital, UK

#### ABSTRACT

**Background:** Human factors refer to the relationships between human beings and the environment and systems with which they interact. Human factors training is well established in the fields of industry and aviation with rising prevalence in healthcare. Knowledge of human factors is imperative to reduce adverse events but training in Medicine is currently aimed at postgraduates with little or no integration in undergraduate curriculums.

**Summary of Work:** The aim was to assess awareness of human factors in final year medical students, deliver an introduction to human factors and evaluate the role of human factors training in the undergraduate curriculum. Thirty final year medical students were asked to attend one of two compulsory half-day workshops. The workshop incorporated several small-group activities including an interactive session on theory, comparison of healthcare and aviation videos and case-based discussions. Learners were asked to complete a pre-course questionnaire to ascertain their understanding of, interest in and ability to apply human factors. Responses to a post-course questionnaire were analysed for comparison.

**Summary of Results:** Prior to the session only 7% of students understood what human factors entail and the importance of human factors in healthcare. 0% of students had previous human factors training and 0% felt confident in their ability to implement human factors. 93% were not aware of barriers to human factors but 73% were interested in learning more about human factors in healthcare. Following the session 100% understood the importance of human factors in healthcare and barriers contributing to human error. 93% were confident in their ability to implement human factors after graduation. 100% enjoyed the session and 100% felt this was an important topic to cover in medical school.

**Discussion and Conclusions:** Human factors awareness in healthcare is crucial to improve patient safety by minimising human error. The undergraduates in this study had received no previous formal human factors training during medical school but found the human factors workshop enjoyable and advantageous in building knowledge and confidence to apply human factors to the clinical environment.

**Take-home Messages:** Human factors training should form a compulsory component of all undergraduate medical school curriculums.

## #7II Posters - Curriculum Subjects 3

### 7II10 (610)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Doctors & Crows: Exploring the Didactic Value of Literature and Metaphor in Forming a Better Understanding of the Grieving Process

#### AUTHOR(S):

- Oliver Hodge, University of Bristol, UK (Presenter)

#### ABSTRACT

**Background:** It is thought that many medical students and doctors feel inadequately prepared to care for grieving individuals, despite the contrary expectation or assumption. Whilst recognising grief to be a unique and highly personal experience, we may reasonably examine the supportive role of literature in the field of grief studies in medical education.

**Summary of Work:** This project uses Max Porter's triptych, *Grief is the Thing with Feathers*, to explore the value of literature, language and metaphor in bringing about a better understanding of the grieving process. Supported by Porter's own insights, which have been collected for the project, and accompanied by discussions of Kubler-Ross grief theory, the work asks whether there is such a role for literature in medical education.

**Summary of Results:** 1) Medical students generally feel unprepared to deal with the condition of grief in their patients. This, I have elucidated via surveys and questionnaires. 2) Grief studies is currently a minor or negligible part of the general medical school curriculum. 3) Literature and metaphor go some way to depicting the grieving process and initiating related conversations. 4) Integration of literature and metaphor into grief studies in the medical curriculum remains to be discussed. 5) An interview with award winning author Max Porter about the role of literature in medical education.

**Discussion and Conclusions:** What literature can offer, is not a total picture of grief (this is far beyond any medium), but a clearer sense of it; an insight into its depths and an eloquent portrayal of its characteristics. Following this, it is reasonable to conclude that there may be a didactic role for fiction literature in medical education, when it comes to forming a better understanding of the grieving process. How this could then be implemented is a welcome discussion that remains to be had.

**Take-home Messages:** 1) Medical students often report feelings of inadequacy in regards to their understanding of the grieving process and their ability to communicate with patients and other professionals about grief. 2) Integration of literature into medical curriculums, in the context of grief studies, could be a viable means of addressing the problem. This is the proactive discussion that should be had.

## #7II Posters - Curriculum Subjects 3

7II11 (779)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Validation and Application of an instrument to assess attitudes and difficulties of forensic science students confronting death during forensic practice

#### AUTHOR(S):

- Ileana Petra, National Autonomous University of Mexico, Mexico (Presenter)
- Mariana Fouilloux-Morales, National Autonomous University of Mexico, Mexico
- Jose-Antonio Talayero-Uriarte, National Autonomous University of Mexico, Mexico
- Maria-Teresa Cortes-Gutierrez, National Autonomous University of Mexico, Mexico

#### ABSTRACT

**Background:** The School of Forensic Science of the National Autonomous University of Mexico was created in 2013. Internationally, forensic research has focused on the technical aspects of the discipline, so there are very few publications on the way in which the students respond to death experiences during their forensic practice.

**Summary of Work:** This research assesses the reactions of students during the dissection of corpses. A Likert style instrument was developed and was first validated with 269 medical students, and was subjected to an analysis of reliability to determine the alpha de Cronbach and its Varimax rotation. Then it was applied 56 forensic science students.

**Summary of Results:** 38 items gave an Alpha of .732 and explained 47.7% of the total variance in six components: motivation, negative reactions, anxiety somatization, perceptions, aversion, and professional profile. 73% forensic students showed curiosity, 82% were not affected, 20% pointed out that it affected them occasionally and makes them consider how important the experience of life is.

**Discussion and Conclusions:** Over 70% regarded their practice in a positive way leaving 20 to 30% with doubts and conflicts. Most students believe that the forensic practice is acceptable from the start and it doesn't cause much fear or anxiety. However a low percentage of students do present some sort of emotional reaction. While the group under study is small, the results open an important field to explore the personality and emotions that these future forensic professionals. Because they have to confront death continually and therefore if it is necessary to offer appropriate, help to overcome these problems. The analysis of their needs and participation, could be included in their studies, and then offer them teachers who can act as tutors and follow them during their career.

**Take-home Messages:** (1) More studies must be done to analyze the way students confront death during their forensic practice; (2) Forensic students are prepared to confront their forensic practice. Moreover, a small group is not prepared for it and needs guidance.



## #7II Posters - Curriculum Subjects 3

7II12 (2353)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The impact of clinical shadowing in end-of-life care on undergraduate premedical students

#### AUTHOR(S):

- Yen-Ko Lin, Kaohsiung Medical University, Taiwan (Presenter)
- Chia-Ju Lin, Kaohsiung Medical University, Taiwan

#### ABSTRACT

**Background:** End-of-life (EOL) care education remains a challenge for medical educators and students during medical curriculum. There is little opportunity to obtain the authentic experiences in caring patients near the end of life for premedical students. This study aims to evaluate the impact of physician shadowing in EOL care through “On Doctoring” clinical shadowing (ODCS) course on the premedical students.

**Summary of Work:** ODCS course was designed for the second-year premedical students at Kaohsiung Medical University since 2014. Before entering into the clinical environment, all students were required to complete a course equipped students with the observational and writing skills for reflective journal. Students were assigned the physician shadowing activities to participate in and observe the clinical patient care, the interaction process of patients, families and physicians, and the family meetings in the intensive care units. A final oral presentation and reflective essays were collected as both student’s assessment and data for qualitative content analysis.

**Summary of Results:** Four categories were identified: reflections on emotional impacts and personal meanings, the empathy and communication skills, ethical decision-making, and the ways to provide more caring approaches. Students’ perceptions revealed that clinical shadowing in EOL care might facilitate perceiving patient’s suffering, understanding the importance of patient-physician communication, and making ethical decision at the EOL care.

**Discussion and Conclusions:** Clinical shadowing provides invaluable learning experiences introducing premedical students to the care of severely ill patients near the end of life. We believe these experiences may enhance the fundamental professional competence, foster self-reflection and empathy, and equip students to provide professional care in all aspects of future patient care. Further studies are needed to follow up students’ future professional performance on the EOL care, as well as clinical care in general. In conclusion, clinical shadowing in EOL care may provide the opportunities for premedical students to observe the real world of patient care near the EOL and help them appreciate their professional role and significance in future patient care.

**Take-home Messages:** Clinical shadowing in end-of-life care may enhance the empathy and professional competence for premedical students and help appreciate the future patient care.

## #7II Posters - Curriculum Subjects 3

7II13 (749)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The medical student's attitude toward the pioneer curriculum on palliative care

#### AUTHOR(S):

- Weerajit Thipprasert, Roiet Hospital Medical Education Center, Thailand (Presenter)
- Sucheera Amornmahaphun, Roiet Hospital Medical Education Center, Thailand
- Narongchai Sangsa, Roiet Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Thailand has just adopted a palliative care treatment. The approach will be further applied as a treatment for a patient within a community but there is still no curriculum available in a medical school. This research's result will contribute to curriculum development.

**Summary of Work:** The 27 of fifth-year medical students who had enrolled in palliative care class and covering lessons on 5 following topics; Concept and Assessment, Pain Management, Non-pain Symptom Management, Final Hours of Life and a Subcutaneous Drug Administration, Discharge Planning, Referral System and Home Care. The 14 of the students had experienced a case study while 13 had a ward round teaching under the supervision of a palliative care expertise doctor. All 27 students had experienced the home visit to the palliative care patients before taking the attitude survey.

**Summary of Results:** Most of the students strongly agreed that palliative care class is significant (mean=4.15, SD=0.82, p-value=0.973). The result showed that ranging from medium to most numbers of students want the faculty to add a palliative care into the curriculum (mean=3.81, SD=0.83, p-value=0.855). The most wanted teaching method are respectively as the following; lecture, ward round teaching, case study and home visit. The students who had experienced a case study had less understanding and confidence in giving patients' the treatment in palliative care than those who had ward round teaching. (mean=0.56, 95%CI=-0.97--0.14, p-value=0.010), (mean=0.53, 95%CI=-0.99--0.08, p-value=0.023) respectively. 74.1% of the students had ever seen the palliative care patients but never had a chance to give the treatment by themselves. After taking a palliative care home visit with an interdisciplinary team, the students had a positive attitude toward the home visit (mean=3.48, SD=0.57, p-value=0.867) while 85.2% will consider applying palliative care to treat the patients.

**Discussion and Conclusions:** The course on palliative care is significant. Most of the medical students want the faculty to include the course into the curriculum whereas the lecture methods are the most in favor. In order to create an effective learning process, various teaching methods must be used especially a ward round teaching. Home visiting increase the students positive attitude toward the palliative care and enhance them to apply the palliative care to the patients in the future.

**Take-home Messages:** There should be the course on palliative care in the medical school's curriculum in various methods which is same as the other subjects.

## #7II Posters - Curriculum Subjects 3

7II14 (404)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Review of a three-in-one palliative-care curriculum for junior medical students: First time in Taiwan

#### AUTHOR(S):

- Kuei-Yu Liu, National Taiwan University School of Medicine, Taiwan (Presenter)
- Li-Lin Kuo, Taipei City Hospital, Taiwan
- Sheng-Jean Huang, Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** Although comprehensive palliative-care training has been developing for decades among doctors and senior medical students in Taiwan, curriculum for junior students is still lacking. Since training is limited to classroom lectures only, students lack learning through clinical experiences. Besides, no evaluation of palliative-care training for junior medical students has been done so far.

**Summary of Work:** A three-in-one, student-centered course of palliative care including “lecture”, “simulation”, and “observation” was created for M1 students who had never experienced any palliative-care training. The length of the curriculum was 40 hours. In lectures, tutors introduced palliative care to students via presentations, videos, and experience sharing. Next, conversation simulation was given because students lacked experience of communicating with patients and their family. Finally, students led by medical teams began clinical shadowing in hospice wards, patients’ homes, and communities. Additionally, students interacted with patients and their family under professional supervision and instruction. In the end, a questionnaire with a written section was given to attending students to assess the outcome.

**Summary of Results:** In the questionnaire, there were 30 questions. In one of the questions, all 34 students gave a score from 1-10 to determine how well they could help a patient, and the average score was 6. The highest was 7, and the lowest was 1. Moreover, the questionnaire evaluated that 94% were “very satisfied” or “quite satisfied” with the course. Furthermore, 94% of the polled expressed gaining a better understanding of palliative care. In the written section, the top two suggestions were “additional simulated interaction and communication skills training” (15%) and “dialect learning” (12%).

**Discussion and Conclusions:** Our aim was to introduce palliative care to M1 students in various ways, and the high satisfaction rates reflect excellent approval. Furthermore, although without professional training, students quickly found their role in the team: “to comfort, always”. To some degree, written suggestions reflect insufficient training in interacting with patients and using patient-friendly language.

**Take-home Messages:** Through the three-in-one method, medical students’ early exposure to palliative-care education can be meaningful.

## #7II Posters - Curriculum Subjects 3

7II15 (2276)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### “I felt, at that moment, that I was betraying my ideals”: Emotional Responses of Residents when Taking Care of Patients at the End-of-Life

#### AUTHOR(S):

- Heloísa Takasu Peres, State University of Campinas, Brazil (Presenter)
- Marco Antonio De Carvalho Filho, State University of Campinas, Brazil
- Esther Helmich, University of Groningen, the Netherlands
- Diego Lima Ribeiro, State University of Campinas, Brazil

#### ABSTRACT

**Background:** Although the relevance of emotional responses for professional identity formation is widely recognized, the mechanisms by which emotions impact on professional development are still not fully understood. This lack of understanding risks making medical educators unable to prevent cynicism, lack of empathy and emotional distancing from taking over their residents’ souls. This study explores residents’ emotional reactions to positive and negative end-of-life care experiences.

**Summary of Work:** Residents from General Surgery, Internal Medicine and Emergency Medicine were invited to draw two Rich Pictures - visual tools enhancing data collection by capturing “hard to describe” factors. They drew situations in which they cared for patients at the end-of-life; one they considered positive and another they considered a negative experience. Afterwards, they were interviewed to explore the context of those situations, the conflicts involved, their emotional responses and the influence those experiences had on how they perceive themselves as doctors.

**Summary of Results:** The core of both positive and negative emotional responses was providing patient-centered care. Whenever residents had offered humanized care and respected their patients’ autonomy, wishes and dignity, positive emotions arose. When residents were uncomfortable with the devised therapeutic plan or witnessed patients suffering dyspnea, they suffered negative emotions. Residents mentioned that “it is possible” to offer dignity and comfort to patients at the end-of-life, and aimed to always provide such care. Residents said they will think carefully before performing invasive procedures in patients, focus on the patient and not on the procedural aspect of care, and reflect on how to stand up for their opinion.

**Discussion and Conclusions:** Rich pictures, followed by a semi-structured interview, allowed the identification of emotional responses in end-of-life care situations. With those findings, we might be able to provide residents a space to direct this emotional drive into fruitful reflection, helping them internalize professional and humanistic values.

**Take-home Messages:** It can be assumed that, when provided with a space for guided reflection, both positive and negative experiences may provide fruitful insights about how to deal with the multiple challenges surrounding end-of-life care.

## #7II Posters - Curriculum Subjects 3

7II16 (1685)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Validation of a skill-based team learning curriculum in workplace violence prevention for nursing students

#### AUTHOR(S):

- **Fu-Li Chen, Fu Jen Catholic University, Taiwan (Presenter)**
- Peter Y. Chen, Department of Psychology, Auburn University, USA
- Shy-Yang Chiou, Department of Leisure Industry and Health Promotion, National Ilan University, Taiwan
- Ting-Ya Kuo, Department of Public Health, Fu Jen Catholic University, Taiwan
- Tao-Hsin Tung, Cheng-Hsin General Hospital, Taiwan

#### ABSTRACT

**Background:** Workplace violence, faced by health care workers, is a severe occupational safety and health hazard, and has received global attentions in research and in practice. The aim of this study was to design, implement, and evaluate a skill-based team learning curriculum in workplace violence prevention for nursing students.

**Summary of Work:** 105 senior nursing students were invited to participate in a quasi-experimental study. Among them, 56 students in the treatment group received the training curriculum which included three sessions (1) 50-minutes lecture and team group discussion to illustrate the various workplace violence situations and effective violence prevention skills (e.g. communication, empathy and negotiation skills, problem solving skill, emotional managing skill), (2) 100-minute interactive skills training curriculum focusing on demonstration, role play, and rehearsal, (3) 50-minute feedback, and debriefing. The remaining 49 students in the control group received a self-learning violence prevention manual.

**Summary of Results:** The results for the GEE statistics indicated a significant time effect. The pretest-posttest and after the posttest results that treatment group showed significant improvement in preventive skills ( $\beta=2.810$ ,  $\beta=1.999$  ;  $p<0.001$ ) and self-efficacy ( $\beta=7.332$ ,  $\beta=7.485$  ;  $p<0.001$ ) compared to the control group

**Discussion and Conclusions:** The study showed integration of skill-based teamwork learning in nursing education provides an additional venue to prevent and reduce workplace violence. The findings suggest a potentially effective approach to prevent workplace violence by providing situational interactive and skill-based learning methods , particularly for senior nursing students or pre-service nurses.

**Take-home Messages:** The present study provided empirical evidence of the skill-based team learning training curriculum in workplace violence program for nursing students. The study demonstrates the feasibility of implementing the team learning curriculum for senior nursing students and pre-service nurses.



## #7II Posters - Curriculum Subjects 3

7II17 (1744)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Education and Preventive Medicine: A System Dynamics Approach

#### AUTHOR(S):

- Tiffany McClure, David Geffen School of Medicine at UCLA, USA (Presenter)
- Viktor Sigalov, David Geffen School of Medicine at UCLA, USA

#### ABSTRACT

**Background:** Ever since preventive medicine (PM) was recognized as a specialty in the US, inconsistencies in related content, training strategies, and outcomes persist across medical school curricula. While many aspects of preventive medicine were investigated from system dynamics perspectives, medical education was not, to our knowledge, part of these considerations.

**Summary of Work:** A broad literature search on PM with association to medical education was performed to identify key variables. Using Vensim software, a causal loop diagram (CLD) was designed to visualize the relationships between the identified variables and analyze feedbacks in the system as the cause of its behavior.

**Summary of Results:** The CLD demonstrated that education in PM is driven by need for preventive services, public perception of their value, and prevention-seeking behavior. Exponential growth in need for prevention outstrips preventive service capacity, resulting in increasing need in curative services and diversion of trained workforce from preventive to curative medicine.

**Discussion and Conclusions:** This study used system dynamics to explore the network of relationships between medical education and PM, and to analyze policies for optimization of these relationships. The model uncovered nonlinear connections between prevention-seeking behavior, reimbursement for preventive services, and both interest in academic research and quality of education in PM. While public health education is necessary for supporting prevention-seeking behavior, its wide implementation is limited by lack of dedicated resources. Proposed policies, including involvement of medical students in PM research and public health education, have the potential to increase utilization of preventive services and in turn, PM reimbursement while reducing factors of unhealthy lifestyle.

**Take-home Messages:** CLD modeling provides a platform for visualizing medical education and PM as a complex system with a distinct internal structure being a source of continuing challenges in PM. The CLD also allows developing and testing policies on changes in the structure of medical education for optimizing PM without prohibitive costs.

## #7II Posters - Curriculum Subjects 3

7II18 (774)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Improving Nutrition Education in Medical Schools: the ESPEN-NEMS project

#### AUTHOR(S):

- **Stephane Schneider, Gastroenterology and Nutrition, Centre Hospitalier Universitaire de Nice, France (Presenter)**
- Cristina Cuerda, ESPEN Nutrition Education in Medical Schools group, Spain
- André Van Gossum, Department of Gastroenterology and Nutritional Support, Hopital Erasme and Institut Bordet, Belgium
- Maurizio Muscaritoli, ESPEN Nutrition Education Study Group, Italy
- Matthias Pirlich, European Society for Clinical Nutrition and Metabolism (ESPEN), Germany
- Rocco Barazzoni, European Society for Clinical Nutrition and Metabolism, Italy
- Zeljko Krznaric, European Society for Clinical Nutrition and Metabolism (ESPEN), Croatia

#### ABSTRACT

**Background:** Nutrition education is necessary in the training of healthcare professionals, including medical students. Nutrition-related disorders include a wide spectrum of modalities from undernutrition, obesity, to diet-related non-communicable diseases, that have a negative impact in the clinical outcome and increase disability in the people. Although different attempts have been done in the last decades to improve the academic curriculum in nutrition education for medical schools, recent surveys showed that the problem is far from being solved. The aim of this work is to improve the Nutrition Education in Medical Schools (NEMS), identifying a minimum curriculum knowledge in nutrition that serves to improve the training of the future doctors, and show how to solve the main barriers of its implementation in university centres.

**Summary of Work:** In 2017, the Nutrition Education Study Group (NESG) of the European Society for Clinical Nutrition and Metabolism (ESPEN), on behalf of the ESPEN Executive Committee, launched the NEMS Project and formed a core working group including members of ESPEN and representatives of several European Medical Schools (Brussels, Madrid, Nice, Rome and Zagreb). This group met in Brussels, on 19th July 2018 and decided to prepare a position paper on this topic.

**Summary of Results:** Five main learning objectives and 21 topics on human nutrition, within its three domains (basic, applied and clinical nutrition) were identified to be fulfilled at the end of training in all Medical Schools. The experts showed the following key factors for its implementation: establish a nutrition curriculum committee, use different models of integration of the contents in the curriculum (vertical and horizontal), have a multidisciplinary and experienced faculty, incorporate a variety of teaching models, and evaluate the programme periodically.

**Discussion and Conclusions:** Nutrition Education is deemed necessary and should be mandatory in all Medical Schools. The NEMS project aims at improving the current gap of knowledge and provides some clues for a successful implementation of the changes in the medical curriculum at university centres.

**Take-home Messages:** Nutrition education is necessary and should be mandatory in all Medical Schools. The NEMS Project aims at improving the gap of nutrition knowledge through a networking between ESPEN and the Medical Schools.

## #7II Posters - Curriculum Subjects 3

7II19 (1979)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Investigation on the Requirement and Recognition of Medical Ethics Education for Hospital Staff

#### AUTHOR(S):

- **Pei-Wei Wang, Taipei City Hospital, Taiwan (Presenter)**
- Ting-Fang Chiu, Taipei City Hospital, Taiwan
- Li-Lin Kuo, Taipei City Hospital, Taiwan
- Lin-Yang Chi Chi, Taipei City Hospital, Taiwan
- Da-Chen Chu, Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** In recent years, the demand for effective medical education has increased due to changes in the social environment and the rising number of medical disputes in Taiwan. The objective of this research is to compare the perspectives of medical staffs' requirement and recognition of medical ethics education in 2009 and 2016.

**Summary of Work:** We have developed flipping classroom including multimedia case teaching videos and multi-disciplinary simulations to promote the interests of our hospital staff for teaching medical ethics since 2009. A self-administered questionnaire was designed to survey the effectiveness of medical ethics education. There are 19 items addressing topics such as the importance of medical ethics education, contribution to work and the suitable method to implement medical ethics education. There were five agreement ratings including very disagreed, disagreed, fair, agreed and very agreed.

**Summary of Results:** 522 and 336 completed questionnaires were collected from all level staffs at Taipei city hospital in 2009 and 2016 respectively. Both the respondents have a strong agreement about the importance of medical ethics education (94.05% Vs 97.2%) and contribution to future medical services (94.23% Vs 96.9%). More than ninety percent thought medical courses is helpful to make reasonable decisions when encountering medical ethics cases. Comparing with those in 2009, more have taken ethical course (84.5% Vs 79.19%) and law courses (59.2% Vs 49.68 %) at school in 2016. However, only half of them stated that medical ethics course is sufficient and two-thirds of physicians agreed that the number of credit hours specified in the medical ethics course is sufficient in 2016.

**Discussion and Conclusions:** Few studies involving medical ethics education in regional hospitals in Taiwan have been conducted and this survey provide current situation and needs. Only half of the post-graduated hospital staffs thought medical ethics education was sufficient in 2016. There are also a small number of doctors who believe that medical education does not help reduce medical disputes. Therefore, we still need to continue and improve medical ethics education and other measures such as increasing medical law courses is worth considering.

**Take-home Messages:** Medical ethics education is required to promote and increasing the course of medical law is worth considering in Taiwan.

## #7II Posters - Curriculum Subjects 3

7II20 (607)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Law Teaching in Thai Medical Schools

#### AUTHOR(S):

- **Smith Kerdsin, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand (Presenter)**
- Piti Phloenchaiwanit, Chiangrai Prachanukroh Hospital, Thailand
- Chamaiporn Matthawarat, Phadungpanya School Tak, Thailand
- Worasit Charoensin, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** The medical law is essential in the medical curriculum because the doctors profession must be aware of the rights and responsibilities of patients by using the law as an element of service. According to WFME standard, Medical jurisprudence must be included in the core curriculum. But in reality, the medical staff usually neglects to teach the law. Therefore, this research aims to explore the teaching status of the medical law in the medical schools in Thailand.

**Summary of Work:** The questionnaires were distributed to 24 medical schools in Thailand. The expected participants were deans or vice-deans or instructor. Questionnaires were designed to obtain the participant data, the teaching status, supporting system (e.g. medical law expert, book and media) and the teaching problem.

**Summary of Results:** Most of the participants were instructors (57.6%) who have experiences in organization management and teaching at 1-10 years. For the teaching status on medical law, 50% of respondents reported setting the medical law into an elective course and only 8.3% reported setting in a core course. 71.5% of the medical schools were introducing the conference on a law for the doctor profession and 21.8% of medical schools were integration law issue to a medical practice round, especially obstetrics and gynecology rotation. The main problem of teach medical law is the lack of an expert, the complexity of medical law, and disinterest of medical staff.

**Discussion and Conclusions:** Medical schools in Thailand place less importance on law course for medical students and learning resource are limited. But, there are some activities to promote law learning effectively, such as conference or integration law with a medical round. Teleconference and study guides may be used to increase medical law knowledge in limited teaching resource hospital.

**Take-home Messages:** The medical council of Thailand should support the medical schools on the medical law by providing learning material and improving the accessibility of essential content.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ01 (2523)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Applying community-based learning (CBL) activity for Otorhinolaryngology curriculum

#### AUTHOR(S):

- Chonthicha Chit-ueaopha, Chaiyaphum Medical Education Center, Thailand (Presenter)
- Prangtip Kongsatree, Chaiyaphum Medical Education Center, Thailand
- Natthawan Suangtho, Chaiyaphum Medical Education Center, Thailand

#### ABSTRACT

**Background:** Integration of CBL to otorhinolaryngology curriculum by introducing hearing screening in the community could be beneficial. The aim of this study was to evaluate the impact of CBL on the learning skills of medical students during the otorhinolaryngology rotation.

**Summary of Work:** Twenty students were divided into two groups. One group participated in the hearing screening activity in a selected community (CBL group). Another group did not participate in the screening activity (non-CBL group). Clinical skills including ear examination and spot diagnosis were assessed during the objective structured clinical examination (OSCE) at the end of the rotation. Self-rating was done by selection on a 5-point Likert-type scale in the CBL group. Descriptive statistics and t-test were used as appropriate.

**Summary of Results:** Mean scores of the ear examination and the spot diagnosis in CBL group and non-CBL group were  $6.70 \pm 0.54$  and  $6.60 \pm 0.52$ , respectively ( $P$ -value=0.676) and  $2.80 \pm 1.67$  and  $1.60 \pm 1.84$ , respectively ( $P$ -value=0.146). The overall satisfaction mean score on the CBL activity was 4.4 out of 5. The mean score on the usefulness of CBL activity was 4.7 out of 5. The students believed that this activity improve their ear examination skills (mean score 4.5 out of 5) and provide them opportunities for community engagement (mean score 4.6 out of 5).

**Discussion and Conclusions:** There was no difference in the OSCE score between the CBL group and the non-CBL group, however the medical students in the CBL group self-reported that this teaching method was beneficial and enjoyable. They would prefer participating in this activity rather than only having a clinical experience in a hospital setting. The CBL activity could be a useful teaching strategy to improve the learning outcomes of medical students on otorhinolaryngology by fostering them to be an active learner, integrate the academic theory to real-world practice and to improve the teamwork skills.

**Take-home Messages:** The CBL strategy could be successfully incorporated into various subjects in medical schools. However, this teaching method need to be adjusted and modified as needed to provide the most valuable community learning experience to the students.



## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ02 (1422)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Building academic partnerships with community agencies in medical education: community agencies perspectives

#### AUTHOR(S):

- Nayereh Kaviani, School of Medicine, Griffith University, Australia (Presenter)
- Professor Mieke van Driel, Faculty of Medicine, University of Queensland, Australia

#### ABSTRACT

**Background:** The Griffith University MD curriculum provides opportunity for first year students to spend time in the community and develop skills in community health. The program is a partnership with community agencies involved in health promotion, Aboriginal and Torres Strait Islander health services/cross cultural experience, allied health services, and community care/social support. Through these partnerships students learn about the social determinants of health-an increasingly important topic in medical education. Social conditions such as employment, housing, and education, have a large influence on health and disease and students cannot obtain such knowledge through textbooks and lectures alone. The experience helps students identify social perspectives of health and disease, and social factors that impact health. They also learn about resources in the community and non-medical pathways to health, emphasising a more holistic approach to medicine. In addition, they might view community as a teaching resource and partner for future practice rather than just a placement site. The purpose of this study is to explore community agencies' perspectives of hosting medical students.

**Summary of Work:** We used quantitative and qualitative evaluation methods. A survey instrument for agency staff was administered online after completion of the placements. Data was de-identified for analysis and reported in aggregate form. For the quantitative evaluation component, all analyses will be reported in a descriptive way. For the qualitative evaluation component, thematic analysis method will be used to analyse responses.

**Summary of Results:** Preliminary analyses highlights that community agencies greatly appreciate continued partnership. They also report the types of contributions that students can provide through participation in small-scale support and education activities.

**Discussion and Conclusions:** The final analysis will provide ideas and suggestions that could offer opportunities for further development of this component of the MD curriculum and build stronger partnership with our community organisations. The findings illustrate how community-academic partnerships in medical education can be mutually beneficial.

**Take-home Messages:** Community agencies highly value their involvement in medical education through academic partnerships.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ03 (3119)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### A study of correlation between grades and learning outcome achievement in Home Health Care (HHC), Family Medicine, Prapokklao Hospital, Thailand

#### AUTHOR(S):

- Kullawan Chaicharoenpong, Faculty of Family Medicine, Prapokklao Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** To accomplish optimal patient care, home visits after hospital discharge play an important role in the continuity of care, especially in long-term follow up cases and chronically ill patients. Medical Education Center, Prapokklao hospital (MED PPK) believed that Home Health Care (HHC) program help medical students to attain preferable physician characteristics which were defined by Faculty of Medicine, Chulalongkorn University as 12 medical learning outcomes. This study aimed to compare the learning outcome achievement among medical students with different grades.

**Summary of Work:** 31 fourth-year medical students taking a family medicine course at Prapokklao Hospital, Thailand, were classified into 2 groups using their accumulated grade point average (GPAX) of < 3.0 and  $\geq 3.0$  and were assigned to perform post-hospitalized home visits every 2 months for 8 months. Self-assessment questionnaires were given after finishing this HHC program to assess whether the students achieved 12 medical learning outcomes. The questionnaires were based on 1-5 scale, rating from least to most applicable of the course to the learning outcomes, respectively, and analyzed with SPSS statistics, version 19.

**Summary of Results:** There was not a statistically significant difference in the achievement of each medical learning outcome between groups of medical students with GPAX <3.0 and  $\geq 3.0$  at p-value less than .01 in this longitudinal HHC study.

**Discussion and Conclusions:** Home visits helped students to achieve medical learning outcomes unrelated to their grades. This might be explained by that home care required thorough consideration rather than intelligence. In addition, home visits could enhance discovery of further health care needs, leading to better patient understanding. The accumulated grade point average (GPAX) did not affect medical students' learning outcome acknowledgement in HHC.

**Take-home Messages:** Continuing of home health care can help medical students gain desirable physician characteristics and better patient understanding.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ04 (1226)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Do the medical skill and performance outcomes of medical students differ by type of training?

#### AUTHOR(S):

- Anchalee Buangoen, Songkhla hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Songkhla hospital medical education center (SK-MEC) has trained medical student called CPIRD (Collaborative project to increase production of rural doctor) that based on COME (community oriented medical education). Extern is the last year training medical student before transitioning to practice. Extern in SK-MEC has trained in general and community hospital that differ from university based medical school program. Previous studies had reported training experiences of training in university based were higher than community based. COME in practice of extern is real life experience trend to increase medical skill and performance. OSCE and MEQ examination by the center of medical school in Thailand is the assessment tool to evaluate medical skill. Performance outcome were evaluated by medical staff.

**Summary of Work:** Objective : To examine the differences of medical skill and performance outcomes between extern CPIRD and Non-CPIRD (university based medical school program). Method: This observational cohort study of 38 externs in SK-MEC, Thailand, between 1 January to 31 December 2017. 21 Externs CPIRD and 17 externs non-CPIRD performed OSCE and MEQ examination. Performance outcome was evaluated by medical staff at SK-MEC. Medical skill and performance outcomes were analyzed by Chi-square tests SPSS 17.0.

**Summary of Results:** No significant difference was observed between CPIRD and non-CPIRD trained extern in age (mean, 23.5 years vs 23.7 years), sex (female, 88.2 % vs 66.7%), clinical GPA (mean, 3.35 vs 3.35). Overall, a positive association between clinical GPA and OSCE, MEQ examination were found ( $P < 0.001$ ), but no statistic significant correlation between clinical GPA and performance outcome were found for externs CPIRD and NON-CPIRD ( $P = 0.345$ ). After matching, no significant difference in results of OSCE, MEQ examination, and performance outcome were found between CPIRD and non-CPIRD trained externs.

**Discussion and Conclusions:** Extern trained in CPIRD and non-CPIRD programs have distinct practice patterns. When compared within the same assessment tool by OSCE, MEQ examination and performance outcome, extern from both training backgrounds achieve similar medical skill and performance.

**Take-home Messages:** CPIRD (Collaborative project to increase production of rural doctor) of SK-MEC is one of COME program for training rural doctor that can achieve medical skill and performance outcome of medical student.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ05 (644)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Benefits of Homestay in Community Engaged Medical Education for Undergraduate Medical Students in Thailand

#### AUTHOR(S):

- Ananya Chutimararat, MNST Medical Education Center, Thailand (Presenter)
- Sompong Karuna, MNST Medical Education Center, Thailand

#### ABSTRACT

**Background:** An increasing trend in clinical training is to send medical students to sites away from the tertiary academic medical centers. Immersion of the students within the community is one strategy to serve this trend. A training program of fourth-year medical students in community medicine rotation of MNST Medical Education Center with a homestay of 2 weeks with host families was implemented to place them at decentralized learning sites. So, this study was done to evaluate the benefits of homestay to provide a database towards improving a model for a training program.

**Summary of Work:** The participants in this study included 43 undergraduate fourth- through sixth-year medical students who had completed their homestay training. A self-administered questionnaire regarding the engagement between the students and host families, benefits of the homestay, and the curriculum was used as a data collection instrument. Focus group interviews with 30 host families were also done.

**Summary of Results:** The majority (95.4%) of the participants had moderate to high level engagement with their host families. More than half (66.7%) still keep in touch at least once a month within the past year. Out of 43 participants, almost half (48.8%) were personal health consultants for the host families. More than half reported that homestay with host families influenced their cultural learning, professional skill improvement, and motivation to practice in rural areas following graduation. They also recommended continuing the homestay program as a learning platform of community-engaged medical education (CEME). The host families were pleased to host the students and treated them as their own child. Moreover, the students shared many life events with the host families such as medical admission, religious ordination, wedding ceremonies, and funeral ceremonies.

**Discussion and Conclusions:** A homestay program provides an exclusive experience with the potential to engage medical students in the community to serve a significant role in a CEME program.

**Take-home Messages:** Homestay with local host families is useful for CEME.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ06 (901)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Improving Teaching and Learning with Student Participation Scheme at the Maharaj Hospital Medical Education Center, Nakhon Si Thammarat, Thailand

#### AUTHOR(S):

- Patcharaporn Khajornwattanukul, Maharaj Nakhon Si Thammarat Hospital, Thailand (Presenter)
- Ananya Chutimararat, Maharaj Nakhon Si Thammarat Hospital, Thailand

#### ABSTRACT

**Background:** The Community and Family Medicine program for senior medical students at the Maharaj Hospital Medical Education Center was organized over a 4-week period. In the first week, lectures on community and family health were given, including practice sessions at the Chronic Diseases Clinic. Students also visited families with the Home Health Care unit and learned about primary care services at the Primary Care Cluster. During the last three weeks, students continued studies Primary Health Care Service system and practiced at community hospitals. The purpose of this research was to improve teaching and learning through a student-centered and student-directed design.

**Summary of Work:** Questionnaires and focus group interviews were conducted before the course for 23 senior medical students during the 2018 academic year. After completing the course, focus group interviews were used again and students' log books were analysed.

**Summary of Results:** Before the course 86.9% of students concluded that the duration of the course was appropriate. 95.8% suggested that the method of teaching in the first week could be improved, particularly with regards to field study and the primary care service system. Regular follow-up group discussions were recommended. Additionally, practice with the Chronic Diseases Unit should be increased in order to better integrate knowledge and practice. Students suggested that medium-sized community hospitals with good accommodation, information technology and senior clerkships should be provided for the final three weeks. Knowledge-sharing between students and staff before the course was also suggested. After completing the course, the study found that students were pleased with the program and were able to better comprehend the Primary Care Service System and provide medical care, including to chronic disease patients, using a family medicine approach.

**Discussion and Conclusions:** The study found that students could gain more and meet more course objectives if they designed their own course.

**Take-home Messages:** Results from this study can apply to other subjects.



## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ07 (1413)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Community Research of Undergraduate Medical Students: Sharing Experiences from Mae Fah Luang University (MFU), Chiangrai Province, Thailand

#### AUTHOR(S):

- Chitrlada Utaipiboon, School of Medicine, Mae Fah Luang University, Thailand (Presenter)
- Paween Tangchitpisut, School of Medicine, Mae Fah Luang University, Thailand
- Arnon Jumlongkul, School of Medicine, Mae Fah Luang University, Thailand
- Patcharin Pingmuangkaew, School of Medicine, Mae Fah Luang University, Thailand
- Waraporn Eoaskoon, School of Medicine, Mae Fah Luang University, Thailand
- Chaiyos Kunanusont, Bangkok Dusit Medical Service, Thailand

#### ABSTRACT

**Background:** School of Medicine, MFU aims to build excellent community physician of the Greater Mekong Sub-region. One aspect is the research capacity building among medical students. The 1st class enrolled 32 students since 2013 who will graduate in 2019. With good exposure to community hospitals, the majority of students (59/64, 92%) conducted community research studies.

**Summary of Work:** Four factors contributing to these education outcomes are: (i) Medical program with research courses during year 2-5 of the 6 year program; (ii) Multi-disciplinary experiences sharing by epidemiologists, biostatisticians, and medical staff; (iii) Funding support from the medical school including donation at the early phase; (iv) Collaboration with community, sub-district hospitals and health volunteers. Processes of Teaching and Learning are both in classroom and on-site at community level with tailored-made mentoring. Students learned and practiced through formulation of research questions, literature review, defining study objectives as well as study design, selecting study tools, implementing data collection, data analysis, and manuscript writing.

**Summary of Results:** As of 2018, 20 group work manuscripts and 64 individual research projects have been conducted. The preclinical (Year 3) projects were mostly conducted in the university and employed survey design. Almost all individual researches (Year 4-5) were conducted in the communities. Wide range of research questions regarding health topics and research design had been done. In addition to research, students also created 5 medical innovation, four were selected to be presented at the national level contest.

**Discussion and Conclusions:** Skills of critical thinking, creativity, communication, collaboration can be strengthened by participating in research. Furthermore, awareness on health system and health problems, health information system, public health policy, and human research ethics are essential for improving the quality of medical education and training.

**Take-home Messages:** Community research in medical education is crucial for promoting the skills of lifelong learning and preparing for the complexities of future working across different challenges as community physicians.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ08 (1817)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Task-based assignment in community curriculum as a educational tool for achieving real life professional doctor

#### AUTHOR(S):

- Narut Wongsakorn, Sawanpracharak Hospital, Thailand (Presenter)
- Chaowaphon Ittiphanitphong, Sawanpracharak Hospital, Thailand

#### ABSTRACT

**Background:** In Thailand, rational use of drugs still remain major health problem. Therefore, in teaching at a community hospital, medical students were assigned to increase public knowledge and teach rational use of drugs to solve the problems of drug abuse in the country. Purpose of this study were 1. Students can truly understand the problems of the countrys health system and 2. Students can practice using problem solving skills and team working in the their group.

**Summary of Work:** 32 medical students during their rotation at the community hospital will be responsible for providing knowledge on reasonably drug use in order to solve the major problems of the country. Medical students designed their own technique, presentations based on available information either online or offline. Pre and Post test using questionnaire was used to evaluate efficacy of educating people.

**Summary of Results:** 45 people, 16 male, 29 female, average age 44 years were included in this study. It was found that after giving educate to the public, there was a statistical significant increase in all three important aspects of rational drug use with paired t-test. ( $p < 0.001$ ) Mean of indication for antibiotic use has increased from  $4.8 \pm 0.485$  to  $7.9 \pm 0.463$ . Mean of side effect and contraindication was increased from  $4.1 \pm 0.39$  to  $7.9 \pm 0.29$ . Mean of behavioral and life style modification was also increased from  $3.0 \pm 0.379$  to  $6.7 \pm 0.284$ .

**Discussion and Conclusions:** From the assignment medical students use cognitive, affective and psychomotor domains of learning to work together as a team. Solving problems by thinking, analyzing, brainstorming and using various techniques to educate people. Students build their own creating level of Bloom Taxonomy

**Take-home Messages:** Community based approach by solving real life problems can stimulate medical student to achieve top level of Bloom's taxonomy.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ09 (2097)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Home Visits as Interprofessional Learning Activity for Students in Primary Care

#### AUTHOR(S):

- Christina Olsson, Academic Primary Healthcare Centre, Sweden (Presenter)
- Stefano Torres Asenjo, Karolinska Institutet, Sweden
- Eva Toth-Pal, Karolinska Institutet, Sweden
- Cecilia Fridén, Karolinska Institutet, Sweden

#### ABSTRACT

**Background:** Interprofessional collaboration is known to improve patient safety, increase job satisfaction, and reduce stress among healthcare professionals. Students should already during their initial training experience interprofessional collaboration. The purpose of this project was to evaluate person-centered home visits as an interprofessional learning (IPL) activity for undergraduate students during clinical placements in primary healthcare.

**Summary of Work:** Students from different educational programs and supervisors from different professions participated in the learning activity. The students read a brief description of the patient history before the visit together with a supervisor. During the home visit, the students were responsible for history taking and for performing relevant assessments. Afterwards, the students made a joint care plan for the patient. Thereafter, a seminar took place where students and supervisors from the participating professions discussed the outcome and reflected on each other's professional roles. The students and the patients answered a questionnaire about the activity and the supervisors were interviewed in nine focus groups.

**Summary of Results:** Thirty interprofessional home visits were conducted, involving 109 students from six different healthcare professions. The students reported that they had gained insight into how different professions could collaborate. An increased understanding of teamwork as well as an understanding of the other professions' areas of competence was gained. All patients were satisfied with the visits and felt that they had been listened to, and treated with respect by the students. The interview analysis showed one overarching theme: Major organizational barriers to implement home visits as IPL method in primary care and three main categories: Perceptions of interprofessional collaboration in the clinic, Choosing the right patient for IP home visits and Prerequisites for IPL.

**Discussion and Conclusions:** The students and the patients were generally positive to the activity. However, there were barriers for implementing home visits in the context of reimbursement system and the high clinical workload on the supervisors. Interprofessional collaboration was not a routine in the supervisors' everyday clinical work.

**Take-home Messages:** The results of the study indicate that home visits could be used in primary healthcare settings to promote students IPL.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ10 (1094)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Breaking community and healthcare team engagement in eastern culture

#### AUTHOR(S):

- **Amandha Boy Timor Randita, Faculty of Medicine, Universitas Sebelas Maret, Indonesia (Presenter)**
- Fitriana Fitriana, Faculty of Medicine, Universitas Gadjah Mada, Indonesia
- Daniel Richard Kambey, The University of Tokyo, Japan
- Ayuningtyas Satya Lestari, Depati Hamzah Hospital, Indonesia

#### ABSTRACT

**Background:** Implementation of Interprofessional Education (IPE) mostly done in community based setting in South-East Asia based country especially in Indonesia. Although IPE shows many benefits, the implementation of IPE is challenging mainly in community acceptance related to health care service by undergraduate health students. Learning environment that support community engagement for health care students is needed.

**Summary of Work:** Focused group discussions were explored the barriers of community acceptance related to healthcare students performance, role of community stakeholder, community expectation to healthcare students, and flow of community approach. The participants of this study were fourthy stakeholders from two cities (Yogyakarta and Surakarta) that have implemented IPE with community based learning.

**Summary of Results:** This study covers three themes: 1) Communication in community, 2) Collaboration model, and 3) Set the outcome. There were differences between communication among health provider and patient as individual. Structural approach with local cultural consideration was needed. The specific model consist of socialization to all of the elements who involved in IPE learning (communities, local health provider, primary health center, and students), identification and health stakeholder approach, assessment of needs, family approach, gather the plan, action, monitoring and evaluation. The community need to be involved in set learning outcome for healthcare students to synchronize between community expectation and student activity.

**Discussion and Conclusions:** Community involvement in IPE learning with community based was important. Community not only as learning facility but also as learning foundation. Engagement between healthcare students and communities was more difficult than patient as individual. Healthcare service in individual patient context start on patient come to healthcare provider. However, in community context, healthcare provider should be more comprehensively to assess health problem. Based on cultural in Indonesia, community was resistance to change without local cultural consideration. Health students and community should be collaborate in a model learning, good field assessment, effective communication, and monitoring evaluation.

**Take-home Messages:** Based on cultural consideration in Eastern culture, IPE learning with community based should involve community before field learning was started by set the outcome. Learning method of IPE in community needs specific model approach that should be trained for health care students.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ11 (1214)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Community based medical camp as one of the best methodologies of community based educational learning to approach patient as educator

#### AUTHOR(S):

- Tuangprot Porapaktham, Sawanpracharuk Medical Educational Center, Thailand (Presenter)
- Chaowaphon Ittiphanitphong, Sawanpracharuk Hospital, Thailand

#### ABSTRACT

**Background:** Community based education is the important to improve medical student to be community oriented doctors and be professional physician. In Thailand has many methodology of community medical learning, one of its facility is Community based medical camp to get virtual medical experience.

**Summary of Work:** Purpose of this study is to demonstrate one of the best strategy of community based education to approach patient as educator. We enroll medical student, internist and medical specialist in Sawanpracharuk medical education center, Nakhonsawan, Thailand. This study took place in primary medical care. The community based medical camp has 4 stations consisting of history taking and physical examination until basic medical treatment station, basic cancer screening station, patient education station and patient doctor relationship enhancement station. For the last session of camp, we perform public benefit for example cleaning public rest room, cleaning primary medical care center. Then we use questionnaires from google form to integrate and evaluate data and impressive experience.

**Summary of Results:** Total enrolled case was medical student (65%), internist (25%), medical specialist (10%). They receive many advantages of community based medical camp consist of improving professional responsibility(77.3%), improving professional competent(72.7%), maintaining appropriate relation with patient(63.6%), improving patient confidentiality(59.1%), improving scientific knowledge(54.4 %), improving accessibility to health care(50%), improving quality of health care(40.9%), maintaining trust by managing conflict of interest(40.9%), distribution of finite resource(31.8%), honesty with patient(31.8%). The summarize, this study report that community based medical camp can improve medical professionalism(82.5%) by learning to approach patient as educator.

**Discussion and Conclusions:** We have many strategy to improving medical professionalism. Community based medical camp is one of the best methodology by receiving virtual medical experience and approach patient as educator in Medical educational center.

**Take-home Messages:** The more we access advance technology, the more we should approach to patient with empathy and humanity to be a professional physician which is part of global health care developing.



## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ12 (3142)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Early Exposition to General Practice for Second-Year Medical Students: An Opportunity to Discover Clinical Examination, Professionalism and the Roles of General Practitioners?

#### AUTHOR(S):

- **Sophie Pelloux, Collège Universitaire de Médecine Générale, Université de Lyon, France (Presenter)**
- Sophie Sun, Collège Universitaire de Médecine Générale, Université de Lyon, France
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- Caroline Tilikete, Collège Universitaire de Médecine Générale, Université de Lyon, France
- Gilles Rode, Collège Universitaire de Médecine Générale, Université de Lyon, France

#### ABSTRACT

**Background:** First internship with General Practitioners (GP) occurs between the fourth and sixth years in the curriculum of medical students in France. In 2018, the Faculty of Medicine of Lyon Est was the first to set up an internship with GPs for second-year students. Its objectives were to discover clinical examination, professionalism, and the roles of GPs. Our research question was: were the educational objectives of this internship achieved?

**Summary of Work:** Half of the second-year students of the Faculty of Medicine of Lyon Est completed an internship of 5 half-days with GPs during September 2018. The evaluation was built on Kirkpatrick's model. Satisfaction of students and of GPs was measured using Lickert scales (0 not at all satisfied to 5 very satisfied). A questionnaire assessed learning achievement: we asked students which parts of the clinical examination they could carry out themselves under supervision, and which topics related to professionalism and the roles of GPs they discussed with GPs.

**Summary of Results:** At the end of January 2019, of the 217 students who completed their internship with GPs, 47 responded and their median satisfaction score was 4. 43 students (91%) declared that this internship should continue to be offered. Of the 204 GPs who hosted second-year students, 120 responded and their median satisfaction score was 4. 88 physicians (73%) wished to continue to receive a second-year student. Students could perform part of the physical examination themselves for 44 of them (94%), and part of the clinical interview for 46 (98%). They had the opportunity to address at least one notion of professionalism (medical secrecy, responsibility, independence) for 46 of them (98%) and the roles of GPs for 45 of them (96%).

**Discussion and Conclusions:** Students and physicians were satisfied by this innovative internship. This on-going evaluation reveals that second-year students can discover clinical and professional skills during an early internship with GPs and encourages its perpetuation.

**Take-home Messages:** An early internship with GPs for second-year medical students is possible and well accepted by GPs and students. Students can discover clinical examination, professionalism and the roles of GPs.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ13 (338)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### What do medical students learn from Pediatrics family home visit? Mixed method

#### AUTHOR(S):

- Nawarat Aroonyadech, Sunprasitthiprasong Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Family home visit is a didactic strategy allowing medical students to comprehend the health illness process in a biopsychosocial way. Our goal was to assess what they learned from family home visit in a part of social pediatrics.

**Summary of Work:** During a 12-week clinical rotation in Pediatrics, 5th year medical student at Sanprasitthiprasong Hospital are require to visit children with chronic illness which need continuing care at home. Data collection from 5 simple questions likert scale questionnaires and group interview. Content analysis was perform for data obtained from group interview. Student perception on difference aspects they learned from home visit were describe as percentage.

**Summary of Results:** Most of student rated the home visit worthwhile (97%). 85% reported home visit increase their capacity to apply medical knowledge with reality situation and also help them develop communication skill(83%). 88% felt home visit sensitized them to social commitment and more empathy. From analysis of students' interviews, they reported that home visit enhanced them clearly understand in reality situation and biopsychosocial aspect of patient , collaborate with multidisciplinary team and community, more emphasize in quality of family care-giving and increase motivation to do holistic care approach.

**Discussion and Conclusions:** Family home visit enhanced students learning in professionalism , community and holistic care and humanist and social profile as future healthcare professionals.

**Take-home Messages:** The home visit is essential for providing a learning experience in biopychosocial way and enhanced students learning in professionalism and humanist.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ14 (1897)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical student's perspective on home visiting program

#### AUTHOR(S):

- Bor-Yuan Tseng, School of Medicine, Buddhist Tzu Chi University, Taiwan (Presenter)
- Shao-Yin Chu, Department of Medical Education, Buddhist General Hospital, Taiwan

#### ABSTRACT

**Background:** A comprehensive medical education should include medical science and medical humanities. There are different ways cultivating medical student's humanitarian accomplishment all over the world. Home visiting program (HVP) was conducted to year one medical students (MS) at School of Medicine, Buddhist Tzu Chi University as part of humanity courses. This study present MS's perspectives on HVP.

**Summary of Work:** 56 first-year MS, age ranged from 18-33 years old, was divided into 10 groups. 5-6 MS of each group were supervised by three volunteer mentors who had constructed chronic relationship with socially vulnerable consented families to be visit. Three times of home visits were conducting in one semester. A 5-point Likert scale questionnaire including three dimensions of knowledge/skills/attitudes with 21 items was designed and completed by MS after the home visit. Cronbach's alpha ( $\alpha$ ) for the 21-items scale was 0.87 and content validity was tested based on expert views.

**Summary of Results:** The response rate was 59%. 75.8% of MS aware the minority population existing in the society after HVP. 51.5% and 44.5% of MS agree HVP can improve skills of communication and conduct holistic care respectively. 42.4% learned how to support and comforted others through volunteer mentoring. 57.5% consider HVP nurture good doctor-patient relationship in the future, and 42.4% felt the sense of accomplishment after helping others. 72.7% and 60.7% agree HVP promote empathy and respect for life respectively. Overall, only 63.7% MS satisfied HVP. Unsatisfactory rate was higher at MS aged less than 20 and those who comes from big city area (41.7% vs 25%, 45.8% vs 14.3%). For the 36.3% (12/33) unsatisfied students, 7 suggested HVP after senior.

**Discussion and Conclusions:** HVP not only lead medical students to a fuller understanding population of low social economic status and their suffering patients, but can also learn empathy, implementing holistic care and respect to every unique living style. Reasons for younger medical students not appreciating the humanity course need further clarification.

**Take-home Messages:** Home visit is still a good method to teach medical humanity. The optimal timing to implement may do more with less.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ15 (955)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning by Doing in Cataract Lesson - The CBME study

#### AUTHOR(S):

- Anant Bhornmata, Chumphon Khet Udomsakdi Hospital Medical Education Center, Thailand  
(Presenter)

#### ABSTRACT

**Background:** Teaching others is the highest average retention rates in the learning pyramid. To gain the knowledge and service mind in the community, cataract lesson was created in the community based medical education (CBME) study. The aim of cataract lesson is to compare pre and post education of cataract knowledge in nursing home.

**Summary of Work:** Fifth year medical students were brain stormed to design the cataract lesson. Total 28 elders participated in the study. A research utilized the questionnaire administered as pre-test (step 1), cataract education by using the poster and acting of the cataract story (step 2). And last post-test (step 3) was done and analyzed by dependent t-test.

**Summary of Results:** Hundred percent of elders are more than 60 years old. The result showed 89.29% (25 elders) have improved their knowledge ( $\bar{X}_{pre}$ , S.D.pre = 6.85, 1.84 and  $\bar{X}_{post}$ , S.D.post = 8.89, 1.40) with  $p < 0.001$  and 7.14% (2 elders) have no difference in pre and post-test. Only 3.57% (1 elder) had failed in post-test.

**Discussion and Conclusions:** Almost all elders gained cataract knowledge. This reflects to the CBME study that has high potential to teach medical students. Medical students have to learn the process to search and analyze know-how of cataract disease before teaching others. The CBME model is the powerful technique to use as the tool for medical learning. All medical students agreed with the CBME study. Therefore, this model is proposed for use in any block of medical learning and improves their service mind.

**Take-home Messages:** Learning with patients is not restricted only in the hospital. Community based learning is the one technique to initiate a good relationship between medical students and people in the community. Finally, medical students have more learning experience with CBME study.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ16 (1353)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Influencing nursing students' perceptions of community care with curriculum-redesign

#### AUTHOR(S):

- **Margriet Iersel van, Amsterdam University of Applied Sciences, Netherlands (Presenter)**
- Corine Latour, Amsterdam University of Applied Sciences, Netherlands
- Rien de Vos, Academic Medical Center, Netherlands
- Paul Kirschner, Open University of the Netherlands, Netherlands
- Wilma Scholte op Reimer, Academic Medical Center, Netherlands

#### ABSTRACT

**Background:** In many Western countries, healthcare is changing from intramural care to caring for patients in their own homes. However, it is problematic that most nursing students orientate on a career in the hospital, which leads to increasing labour market shortages in community nursing. Providing students with a more community-orientated curriculum may help build more positive perceptions that lead to other career choices.

**Summary of Work:** The curriculum-redesign is based on research about first-year students' perceptions and placement preferences. First, a cross-sectional multicentre survey study with first-year students (n = 1058) was conducted using the SCOPE-scale (Scale on COMMunity care PERceptions). Second, a focus group study with students (n = 16) was performed to better understand the factors underlying students' perceptions.

**Summary of Results:** The findings of the survey confirm the hospital's popularity, as 71.2% prefer the hospital and only 5.4% choose community care, which is perceived as a 'low-status-field' with little care complexity and few challenges. The focus group study led to formulation of eight themes, namely (1) variety and diversity, (2) challenges, (3) improving peoples health, (4) collaboration, (5) role models, (6) patient- or environment-based perceptions, (7) self-efficacy, and (8) immediate vicinity. Students' perceptions of community care are at odds with what they consider important in professional practice.

**Discussion and Conclusions:** Students have clear ideas about what they think is attractive but their perceptions do not always appear to be realistic. They expect the hospital to possess all desired characteristics while community nursing is perceived as primarily elderly care and guidance in daily life. Many students have a limited view of what complex caregiving entails as they attribute this only to acute care involving technical skills.

**Take-home Messages:** Curriculum designers can more prominently highlight the complexity of community nursing in the theory, and patient cases can be presented that do not fit the stereotypical views commonly held. Also, it is important that students collaborate with mentors in the field with an appropriate level of education, who can act as a source of inspiration. This can potentially increase awareness of the fields opportunities and contribute to well-informed career decisions.



## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ17 (1624)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Visiting rural hospital as an inspiration tool during selection for rural doctors

#### AUTHOR(S):

- Araya Khaimook, Hatyai Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Thailand still has a problem of shortage of rural doctors in some rural areas. One strategy to maintain rural doctors is to recruit medical students from local areas but not all students are familiar with rural hospitals.

**Summary of Work:** In 2019 student selection for medical students of Hatyai CIPRD and faculty of medicine, Prince of Songkla University. Forty students need to select from 64 high-school students that applied for medical students in TCAS1 (Thai University Center Admission System step 1, Portfolio). During two-day of selection process, all of students have opportunity to visit rural hospital and observe home health care system in the village for half day.

**Summary of Results:** At the reflection period after visiting rural hospital, students showed their understanding for need of rural health care system and clarify their future roles and moreover inspire them to be a rural doctor. In other hand some of them have decided not to be rural doctors

**Discussion and Conclusions:** Visiting rural hospital as a part of student selection can inspire students for their future roles and also help them make decision according to their preferences. Conclusion This innovative way of student selection makes it more vivid and more relevant to their near future contexts

**Take-home Messages:** Visiting rural hospital can inspire and help students understand more in their future roles.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ18 (775)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Students' rural background and training in well-equipped rural teaching hospitals enhance intention to return to work in rural hometown

#### AUTHOR(S):

- Wasana Hongkan, Collaborative Project to Increase Production of Rural Doctors, Thailand (Presenter)
- Rongtiva Muenpa, Collaborative Project to Increase Production of Rural Doctors, Thailand
- Parinya Chamnan, Collaborative Project to Increase Production of Rural Doctors, Thailand

#### ABSTRACT

**Background:** Thailand's Collaborative Project to Increase Production of Rural Doctor (CPIRD) recruits students with the rural background and provides training in rural teaching hospitals. We studied students' main reasons for attending this rural recruitment project and their intention to work in rural areas. We also examined factors associated with the intention to work in rural areas.

**Summary of Work:** During the academic year 2017-2018, 1,349 fourth-sixth year students from 34 rural teaching hospitals under CPIRD responded to a questionnaire about their gender, year of medical study, size of teaching hospitals, a domicile of origin, parental occupation, family income and main reasons for choosing to attend the CPIRD rural medical schools as well as their attitudes towards rural job placement. Factors associated with student intention to work in rural areas were examined using exact probability test, t-test, and one-way ANOVA.

**Summary of Results:** Of 1,349 medical students, 809 (60%) were female, 914 (68%) had adequate family income, 519 (38%) had a domicile of origin in rural areas, 247 (18%) had either a mother or father being health professionals. The top three main reasons for choosing to attend the rural medical schools were intention to return to work in their hometown (32%), student recruitment being less competitive (18.5%) and pre-specified job placement in their home districts (15%). Medical students who had a domicile of origin in rural areas and trained in large-sized teaching hospitals had higher intention to work in rural hometown ( $p=0.037$ , and  $p=0.010$  respectively). 1,283 (95%) medical students had favorable attitude towards rural placement after their graduation.

**Discussion and Conclusions:** Discussion: CPIRD's student recruitment strategy may help increase the number of rural doctors possibly through its students' positive attitude towards working in rural health services. Training in real-world rural health service systems might foster students' community-oriented competencies, which in turn enhance rural doctor retention. Conclusion: Recruitment of medical students with rural background and being trained in rural medical schools may enhance the likelihood that they would intend to start and remain working in rural health services.

**Take-home Messages:** Student rural background and early exposure to rural healthcare services essentially determine intention to work in rural underserved areas.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ19 (150)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Opinions of Community Hospital Directors in the Northern Thailand (2nd Regional Health) toward the Medical Curriculum, Faculty of Medicine, Naresuan University

#### AUTHOR(S):

- Pantitra Singkheaw, Faculty of Medicine, Naresuan University, Thailand (Presenter)
- Sirikasem Sirilak, Faculty of Medicine, Naresuan University, Thailand
- Krit Pongpirul, Faculty of Medicine, Chulalongkorn University, Thailand
- Supawadee Mekanut, Faculty of Medicine, Naresuan University, Thailand
- Inthiporn Kositanurit, Faculty of Medicine, Naresuan University, Thailand
- Yuthapong Buddharaksa, Faculty of Medicine, Naresuan University, Thailand

#### ABSTRACT

**Background:** The core mission of the Faculty of Medicine, Naresuan University is providing graduates of medical curriculum for the Collaborative Project to Increase Production of Rural Doctor (CPIRD). The project recruits 145 students per year from 5 provinces under the 2nd Regional health. The graduates from this project are deployed to work in rural areas of the 5 provinces for at least 3 years after graduation in accordance with the contract executed with the project. Based on the research, 52% of the doctors from CPIRD continue working in the rural area after the completion of 3-year contract. As aforementioned, the Faculty of Medicine, Naresuan University focuses on apply outcome-based curriculum to make attributes of graduates compliant with needs and anticipations of relevant stakeholders such as community hospital directors. Therefore, a study on the opinions of community hospital directors in the 2nd Regional Health toward the medical curriculum should be carried out.

**Summary of Work:** A questionnaire survey was conducted to community hospital directors within the 5 provinces and asked about expectation and opinions toward benefits of learning topics and methods for the practice in a community hospital. Descriptive statistics were used for data analysis.

**Summary of Results:** The participants regard that there are 28 learning topics benefiting to the community practice. Of 28 learning topics, 9 topics are considered the most benefit. The top five scores are leadership skill and teamwork, inter-professional education, community collaboration, referral system and patient safety, respectively. Meanwhile, the most useful learning method is problem-based learning by using evidence-based medicine.

**Discussion and Conclusions:** According to the research, the results prove that coordination skills in multidisciplinary community working are necessary. The graduates should be experts in these skills to advance their future work and to resolve problems by using evidence-based medicine as the 21st century skills are communication and collaboration, critical thinking, and problem solving.

**Take-home Messages:** The necessary skills of the medical graduates for practicing in community hospitals are communication and collaboration, critical thinking, and problem solving.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ20 (597)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Rural community site visit: the essential step of student selection for rural medical program

#### AUTHOR(S):

- Supat Hasuwannakit, Hatyai Medical Education Center, Ministry of Public Health, Thailand (Presenter)

#### ABSTRACT

**Background:** Student recruitment for rural medical program is the essential step of prolonged retention in rural hospital. However, the students who apply for rural medical program in Thailand usually come from middle class families and live in urban area. So how can we set student selection process as a self-recognition activity and reassurance them to be the rural doctors? Rural community site visit is the essential intervention for rural medical program student selection.

**Summary of Work:** In 2019, rural medical tract student selection of Hatyai Medical Education Center has the significant change from examination-based to portfolio-based admission. 63 students from 3 provinces applied in this admission process. 40 students were admitted. Only 30.2% of students have rural background. Half day rural site visit was set first day of three day selection process. After a short presentation of expected rural doctor role-model, students had 1/2 hour for the community hospital quick round and 2 hours visiting rural community and talking with poor families, then came back for reflection and writing self-reflection essay. The essay was also the tool for interviewer to select the students.

**Summary of Results:** The essay content analysis found that 30.2% were student first time visiting rural community, 42.1% of rural background students also get more understanding of rural context. For the essay first three key contents, 60.3% acknowledge the scarcity of doctor and inequity in rural area, 50.8% have inspiration to be a good rural doctor, and 38.1% have more understanding the expected role of rural doctor. However, one student decided to leave this program to be the dentist after visited rural community.

**Discussion and Conclusions:** Rural community site visit on student selection process is essential especially in setting of portfolio-based admission to acknowledge the students before decision to be the rural doctor.

**Take-home Messages:** Rural community visiting for rural medical program student selection can both reassure and inspire the students decision to be the rural doctor.

## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ21 (47)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### How to improve medical students' interest in rural area: Lessons from TAK

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Somdejphrajaotaksin Maharaj Hospital Medical Education Center (TAK) is the small medical school in TAK province, under the administration of "Collaborative Project to Increase Production of Rural Doctor" (CPIRD) with "Naresuan University". TAK establish in 2004, start teaching on 2005 to present and can produced 120 doctors. Moreover, from the human resource data of CPIRD found medical students who graduate from TAK has retention in rural hospital 92% (110 doctors). It was the one in medical schools of Thailand that producing doctor to most stay in rural hospital. So, this research has objective to showed TAK model for improve medical student's interest in rural area.

**Summary of Work:** This study was qualitative research. Data collected by focus group discussion with 20 doctors, 5 nurses and 5 support staffs from TAK and in-depth interview from 5 alumni. Then presented results through description analysis.

**Summary of Results:** TAK has 7 strategies for improved medical student's interest in rural area includes: (1) Set vision, for support everyone understanding on school's goals. (2) Admission, selected only medical students from postgraduate system. (3) Role model, instructors will improve yourself to be the best role model. (4) Promote CPIRD identity, Instructors will support identity in subject as appropriate. (5) Using the rule for control, medical students will pay for a fine when don't working in rural hospital. (6) Support the training in community hospital, we will sent medical students to training in border hospital for learning rural context and (7) Sharing experience from alumni, for making inspiration to medical students.

**Discussion and Conclusions:** TAK model is 14 years' experience learning that reflected to be lessons and best choice. However, TAK should searching new strategies for maintenance standard and motivate to medical student's interest in rural area always.

**Take-home Messages:** TAK model is the best choice for small medical schools. So, Small medical school should apply some strategies for organizational development and improve medical student's interest in rural area.



## #7JJ - Posters - Curriculum: Community and Rural Based Education

7JJ22 (2786)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Factors related to drop out rate of clinical medical students in a CPIRD, Collaborative Project to Increase Production of Rural Doctors, Suratthani Hospital, Rural Medical School

#### AUTHOR(S):

- Kiattisak Wongvorachart, Suratthani Hospital, Thailand (Presenter)
- Juntima Euathrongchit, Chiangmai Hospital, Thailand
- Termsak Napattalung, Suratthani Hospital, Thailand

#### ABSTRACT

**Background:** One interesting medical education problem is MEDICAL STUDENT DROP OUT, there are different causes between each country. Many schools attempt to eliminate this problem with many activities to closing the gap. Many Thai publications showed the reasons of this drop out, but (MAY) not in deep or match with every institute. This is the first study in a regional medical education hub to find out the causes and prepare the way to protect and encourage the success of our medical students.

Surat thani hospital is a RURAL provincial hospital and one of medical studying hubs, taking care of approximately 25 students per class of three clinical years. In 2018, there were 8 potential drop out students. Moreover, some had suicidal thinking and major depressive disorders which was higher than any of the major institutes. This study was stressed on the route causes of failure and hope to create a SURAT MODEL to protect drop out and transform our students to be new 21st century professional physician.

**Summary of Work:** After research processing, this descriptive study covered 72 Surat Thani students in the 2018 academic-year. Systematic sampling was applied. The 2007 Thai Happiness Indicators were used to obtain levels of happiness. Self-administered questionnaires were used to collect their personal basic data and summarized with a statistic program. All databases were sent to the committee to create SURAT MODEL in next step.

**Summary of Results:** Although student burn-out is a multi-factorial problem we found new different major causes which included failure to make parents and applicants realize "TRUE THAI PHYSICIAN" life and THE REAL situation of the Thai health care system. While, unrecognized themselves, low socioeconomic status, psychiatric problem, etc were similar to the prior works.

**Discussion and Conclusions:** The differed major causes of burn-out syndrome were shown and analyzed to find the next steps of new SURAT Model for changing mis-conception of medical life, promote self-esteem, apply new learning and working in the real world. Changing of the tutorial program and encouraging the way to balance doctor life and workload may be two keys prevention factors of drop-out.

**Take-home Messages:** To stop this we need CHANGE !!!

## #7KK Posters – Interprofessional Education 1

### 7KK01 (1019)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Qualitative analysis shows that healthcare students value early inter-professional collaboration during an overseas medical trip to Nepal

#### AUTHOR(S):

- Jia Shun Reuben Ho, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore (Presenter)
- Mun Kit Khong, Physiotherapy, Health and Social Sciences, Singapore Institute of Technology, Singapore
- Hui Xin Oh, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
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- Gayathri Devi Nadarajan, Emergency Medicine, Singapore General Hospital, Duke-NUS Medical School, Singapore

#### ABSTRACT

**Background:** In Singapore, there is limited understanding of the importance of inter-professional collaboration (IPC) among various healthcare professionals when delivering quality patient-centered care. This could be due to a lack of exposure to IPC as students. In December 2018, Project Aasha, a student-led team comprising physiotherapists, physiotherapy students, doctors, medical students and a sonographer, went to Bung (North-eastern Nepal) to conduct a clinic and education with the aim of improving healthcare through educating the Nepalese patients and healthcare assistants. This yearly trip also served as an exposure for medical and physiotherapy students to collaborate.

**Summary of Work:** The healthcare professionals and students worked together consistently pre-trip and during the trip. Pre-trip included planning the clinic's stations and flow and preparation of teaching materials for the locals. During the trip, a 2-day clinic was conducted, where medical, ultrasound and physiotherapy services were provided. Students facilitated the workflow by assisting healthcare professionals and observing and handling patient transfer between other professions. Medical and physiotherapy students collaborated to educate the local students on basic first aid and exercise. The students took turns to lead the team each day. Daily reflections and sharings were conducted. Post trip focus group interviews were conducted to determine the benefits of such IPC-associated medical trips to medical education.

**Summary of Results:** IPC was a recurring theme amongst students' reflections, supplemented by the importance of referrals and effective communication and support between healthcare professionals.

**Discussion and Conclusions:** Synergistic IPC can provide more sustainable care to patients. This was illustrated through physiotherapy interventions complementing medications in providing more sustainable and holistic care for villagers with chronic problems in Bung. IPC can aid in detecting and reducing medical oversights among healthcare professionals. Early exposure to IPC is pivotal in letting healthcare students better understand the limitations of each profession and appreciate the strengths of others. Ingraining this in healthcare students early is crucial in building a strong team to tackle the ever-changing healthcare needs. Integration of IPC into such trips enhance their effectiveness and student's understanding of it.

**Take-home Messages:** IPC can be integrated into healthcare education globally for early exposure of IPC amongst healthcare students.

## #7KK Posters – Interprofessional Education 1

### 7KK02 (2668)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### The role of clinical pharmacist in assistant teaching of local anesthetic agents topic in medical students

#### AUTHOR(S):

- Isariya Piromrat, Buriram Hospital, Thailand (Presenter)
- Patcharee Yimrattanabowon, Buriram Hospital, Thailand
- Wenika Pangvong, Buriram Hospital, Thailand
- Kittayaporn Chirat, Buriram Hospital, Thailand

#### ABSTRACT

**Background:** The clinical pharmacist is an integral member of multidisciplinary patients care team in the hospital. In anesthetic curricula for medical students, one of the most important learning modules is local anesthetic agents (LA) administration. However role and opportunity for assistant teaching in depth in pharmacotherapeutics topics to medical students are not yet exactly clear. Therefore, implementation of this teaching methods may enhance learning and augment student engagement.

**Summary of Work:** Local anesthetic agents were the essential topic in anesthesiology for 5th year medical students for 4 weeks rotation. The objective of learning and course contents included pharmacokinetics, pharmacodynamics of LA, anatomy of peripheral nerve and LA, local anesthetic systemic toxicity (LAST). The study session was 60 minutes in small groups with case-based scenarios and pre and post- test. The medical students were classified in to two groups of teaching A)conventional anesthesiologists teaching B) clinical pharmacist in assistant teaching. The knowledge scores outcomes between 2 groups were compared and measured by pre and post-test examination and student' satisfaction scores using t-test.

**Summary of Results:** Thirty of medical students were enrolled, 40.0% was male, mean grade point averages in clinical year were not different in both groups ( $3.25 \pm 0.40$  vs  $3.28 \pm 0.34$ ,  $p = 0.82$ ). The mean post-test were  $8.93 \pm 0.99$  in group A and  $9.44 \pm 0.50$  in group B with significant different,  $p < 0.05$ . Also the mean paired t test of pre-post test were significant different ( $p = 0.00$ ), especially in pharmacokinetics and pharmacodynamic of LA. But student' satisfaction score were  $4.28 \pm 0.61$  and  $4.33 \pm 0.61$   $p = 0.738$  with no significant different

**Discussion and Conclusions:** Clinical pharmacologist facilitates and successful achievement in assistant teaching of LA topic, moreover student evaluations and feedback were positive and acquisition of knowledge.

**Take-home Messages:** The clinical pharmacist instructions help medical students to enhance learning and understand multidisciplinary team working and reinforce the importance of clinical pharmacist role in clinics Clinical pharmacologist facilitates and successful achievement in assistant teaching of LA topic, moreover student evaluations and feedback were positive and acquisition of knowledge.

## #7KK Posters – Interprofessional Education 1

### 7KK03 (2412)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The effectiveness of Inter-Professional Education (IPE) Template: Evaluated by Kirkpatrick model

#### AUTHOR(S):

- Wei Fang Wang, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan (Presenter)
- Yin Sue Wang, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan
- Chiung Yu Chen, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan

#### ABSTRACT

**Background:** All health professionals should be educated to deliver client-centered care as members of an interdisciplinary team. Inter-professional Education (IPE) occurs to improve collaboration and the quality of care. In order to help clinical teachers guide trainees to improve the outcomes of IPE. We implement an IPE Template in the clinical training program. The purpose of this project is the evaluation of the effectiveness of IPE Template by Kirkpatrick's evaluation model.

**Summary of Work:** The IPE Template guide teaching from pre-conference briefing, case grand round, post-conference debriefing, to clinical application. For understanding the effectiveness of the implement IPE Template, we assess learners' course satisfaction, outcomes of knowledge, skills, and attitudes from pre-post IP conference and behavior changes of IPE milestones. The subjective of this project includes the 11 disciplinary trainees in a medical center in Taiwan. The study tool of reaction level is "IPE Perception Scale", learning level is "Effectiveness of Inter-professional Scale". The behavior change level is analyzed of milestones.

**Summary of Results:** 1. Reaction: The IPE satisfaction from trainee's response is 98%. The perception of Template, "help to understand IPP operating" is 4.83 (5-point scale). The difference of reaction of IPE between before and after implantation Template is significant ( $p < .01$ ). 2. Learning: The outcomes of trainees are significant improvements in knowledge ( $t = -12.874$ ,  $p < .01$ ), attitude ( $t = -13.444$ ,  $p < .01$ ) and skill ( $t = -10.755$ ,  $p < .01$ ) with paired sample t-test. 3. Behavior: There are 6 milestones with significant improvement ( $p < .05$ ) after attending IPE one month. The milestones include "clinical knowledge", "effective communication in inter-professional team", "professional and respectful interaction", "works within an inter-professional team", "recognizes system error and advocates for system improvement" and "identifies forces and practices cost-effective care".

**Discussion and Conclusions:** The clinical teachers are the key persons to guide trainees to approach IPP. This IPE Template is an important teaching strategy. It will be helpful in the future to develop the IPE teaching strategy and design microteaching. The results of this project are improved references, which look forward to designing a diversified IPP curriculum for trainees in order to improve the competence of inter-professional collaborative practice.

**Take-home Messages:** 1. IPE Template contributes to teaching and learning. 2. IPE Template has positive results from trainees.

## #7KK Posters – Interprofessional Education 1

### 7KKo4 (1351)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### How other disciplines influence team members during multi-disciplinary decision making

#### AUTHOR(S):

- Kumiko Yamaguchi, Tokyo Medical and Dental University, TMDU, Japan (Presenter)
- Nobutoshi Nawa, Tokyo Medical and Dental University, TMDU, Japan
- Chiharu Kawakami, St. Lukes International University/ Tokyo Medical and Dental University, TMDU, Japan
- Mina Nakagawa, Tokyo Medical and Dental University, TMDU, Japan
- Jun Tsuruta, Tokyo Medical and Dental University, TMDU, Japan
- Keiichi Akita, Tokyo Medical and Dental University, TMDU, Japan

#### ABSTRACT

**Background:** An aging society requires coordinated and collaborative care between medical, dental and other varied healthcare professionals. In a super aged society, the importance of home based care and/or regional medical care is increasing. Since students of our university have few opportunities to consider home based care, it is felt that adding a social workers perspective will deepen discussions.

**Summary of Work:** A total of 347 final-year students from eight health professions, including 108 medical students, participated in a two-day IPE program which included mixed-small-group discussions and lectures. As only a small number of students majoring in social work joined this program, 18 groups had the influence of social work majors, while 30 groups did not. Post-program, participants answered a questionnaire that asked, "Which healthcare professionals affected your decision making regarding patient care the most?" Of those who completed the questionnaire, 336 students answers were analyzed quantitatively, and 107 medical students answers were analyzed qualitatively.

**Summary of Results:** Among the eight disciplines that participated, the top three chosen by all students were Medicine (chosen by 22.9% of students), Nursing Science (22.9%), and Social Work (21.7%). The top three disciplines chosen by medical students were Social Work (33.6%), Nursing Science (29.9%), and Pharmacology (15.9%). Among students who had social work majors in their team, the top discipline was Social Work (68.9 %). Qualitative analyses revealed that students chose the team members who had different knowledge and skills.

**Discussion and Conclusions:** In previous studies, our IPE program helped students better understand other healthcare professionals work (Yamaguchi et al., AMEE2014), and the viewpoint of patient-centered care (Yamaguchi et al., AMEE2017). In this study, team members were influenced by contact with students of other healthcare professions who had various ideas differing from their own knowledge and skills.

**Take-home Messages:** Students were able to realize the importance of coordinated and collaborative care through mixed-small- group discussions consisting of multiple healthcare professionals. Including social work majors in the workshops could improve the IPE program in regard to improved patient-centered medicine.



## #7KK Posters – Interprofessional Education 1

### 7KK05 (622)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### What Happens When Words Become Action? Undergraduate and Graduate Students' Experiences in an Interprofessional Education Program at the Northern Ontario School of Medicine

#### AUTHOR(S):

- Gayle Adams-Carpin, Northern Ontario School of Medicine, Canada (Presenter)

#### ABSTRACT

**Background:** Interprofessional education (IPE) has been identified as a key learning strategy to enhance the ability of health and social care practitioners to work together to support collaborative patient care [World Health Organization (WHO, 2010)]. This poster presentation will provide a framework for the development of an IPE Program entitled “Interprofessional Education: Examining Collective Competence and Population Health in Northern Ontario”.

**Summary of Work:** The purpose of my poster presentation is to examine undergraduate and graduate students' experiences of IPE based on their involvement in an IPE Program. Students are involved in both academic and community based IPE.

**Summary of Results:** Program evaluation results will capture students anonymous written reflections examining their experiences of the IPE Program based on the Program objectives:

Examining roles and scope of practice of a variety of professions;

Analyze and experience how interprofessional competencies support effective client/patient/family/community centred care;

Cultivate an understanding of group processes and collective competence;

Gain an appreciation of how the social determinants of health influence well-being;

Increase knowledge of designing and delivering student interprofessional health promotion workshops with community non-profit organizations.

**Discussion and Conclusions:** Discussions will focus on 1) advancing understanding of an IPE curriculum that bridges classroom and interprofessional community placements and 2) exploring how interprofessional community engagement may support clinical reasoning and culturally sensitive health professionals.

**Take-home Messages:** Creating innovative, sustainable and culturally sensitive interprofessional educational models to support students and priority populations may contribute to healthcare transformation in the delivery of collaborative care.

## #7KK Posters – Interprofessional Education 1

### 7KKo6 (1935)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A qualitative study on the impact of IPE in clinical clerkships on clinical educators

#### AUTHOR(S):

- **Mayumi Asahina, Chiba University School of Medicine, Japan (Presenter)**
- Narumi Ide, Graduate School of Nursing, Chiba University, Japan
- Izumi Usui, Graduate School of Nursing, Chiba University, Japan
- Shoichi Ito, Chiba University School of Medicine, Japan
- Ikuko Sakai, Graduate School of Nursing, Chiba University, Japan

#### ABSTRACT

**Background:** Interprofessional education (IPE) has been recognized internationally as an essential education strategy to prepare learners for the delivery of quality healthcare. However, there are still a limited number of programs in clinical clerkships. One of the reasons is that clinical educators have educated only students of their profession until now, they are afraid that their practice and educational activities will be hindered by implementing IPE.

**Summary of Work:** We conducted IPE in clinical clerkships(CC), twelve teams of medical, pharmaceutical and nursing students allocated in ten wards. To investigate the impacts of IPE in CC on clinical educators, we conducted semi-structured interviews on eight clinical educators of doctors, nurses, and pharmacists who were involved in student education. The contents of the interview were recorded, made into text data and analyzed qualitatively following an inductive approach.

**Summary of Results:** From the text data, 104 descriptions were extracted from the IPE's impact on clinical educators and classified into five categories and 19 subcategories. The contents of the five categories are: "Brush up of educators student education", "Acquisition of new awareness about educators own practice and interprofessional practice", "Promotion of interprofessional practice in current and future ward", "Positive recognition of educators responses to educational outcome", "No recognition of educator's change".

**Discussion and Conclusions:** Some educators described they did not have any impact from clinical IPE, while others had a favorable impression from educational outcomes and acquired new perceptions of their educational activities and daily practice. They described students learned more in-depth and active than in non-IPE clerkships. They devised ways of teaching more effective on multi-professional students. Also, they had expectations for the future interprofessional collaboration to go well in the hospital wards. IPE in CC not only changed the educational activities of educators but also changed the way of cooperation with interprofessional collaboration in their current practice.

**Take-home Messages:** IPE in CC increase CC educational outcomes and improve interprofessional teamwork among health professionals involved.

## #7KK Posters – Interprofessional Education 1

### 7KKo7 (2656)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Experiential Learning “Healthy Aging” program for Interprofessional education (IPE): Challenges and Rewards

#### AUTHOR(S):

- Jyotsna Pandey, Central Michigan University College of Medicine, USA (Presenter)
- Susan Grettenberger, Central Michigan University, USA
- Allison Putnam, Central Michigan University, USA
- Laurie Bahlke, Central Michigan University, USA
- Andrea Beatty, Central Michigan University College of Medicine, USA

#### ABSTRACT

**Background:** Our challenge was to develop a community need based IPE program; developmentally appropriate for the learner level that linked learning activities to development of the AAMC defined competencies (Roles and responsibilities; teamwork; communication and values and ethics). The program’s educational strategies needed to be relationship focused integrating the learning continuum and applicable across practice settings; across professions; common for all professions; and outcome driven.

**Summary of Work:** We partnered with the local County Commission on Aging to develop an experiential learning “Healthy Aging” home visit for community dwelling seniors. The goals were to: 1) strengthen and build workforce capacity among medical and other health professionals by exposing students to older adult populations and increasing their capacity to engage, assess, treat, and understand older adults’ needs from social, functional, and medical perspective; and 2) ensure that older adults are able to “age in place” within their own homes by expanding access to and availability of preventative health care via the development and implementation of a community-integrated solutions.

**Summary of Results:** A 3 member team of an year 2 medical student, a health professions student (e.g. physician’s assistant, audiology, and speech language pathology, public health, physical therapy etc.) at different stages of training ranging from year 2 to graduate studies; and a final year social work student conduct in-home visits among older adults to assess fall risks, alcohol use disorders, loneliness and isolation issues, and oral health, with interventions to follow based on individual assessments.

**Discussion and Conclusions:** Students reported an understanding and respect of the role in healthcare of other professions. The community dwelling seniors reported a sense of pride to be part of the training experience for tomorrow’s health professionals.

**Take-home Messages:** This learning activity engaged the community in student education while the students learnt the value and workings of an IP environment to improve health outcomes for the elderly.

## #7KK Posters – Interprofessional Education 1

### 7KKo8 (2425)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Patients' Role in Interprofessional Education in the Community

#### AUTHOR(S):

- **E Nok Enoch Ng, Faculty of Medicine, The Chinese University of Hong Kong (Presenter)**
- Vivian WY Lee, Faculty of Medicine, The Chinese University of Hong Kong
- Janita Chau, Faculty of Medicine, The Chinese University of Hong Kong
- Samuel Wong, Faculty of Medicine, The Chinese University of Hong Kong
- Paul Lai, College of Surgeons of Hong Kong
- Ann Lau, Faculty of Medicine, The Chinese University of Hong Kong

#### ABSTRACT

**Background:** To investigate whether providing inter-professional service learning to university students, and enhancing their involvement with elderly patients in the community can improve their geriatric care knowledge and understanding on patients' needs.

**Summary of Work:** We implemented the project in summer 2018. This inter-professional education (IPE) project involved 203 students of different disciplines across Faculty of Medicine and Department of Social Work in The Chinese University of Hong Kong. We organised 5 sessions of IPE training workshops and prepared 28 e-learning items for students to study about geriatric care, disease prevention, and communication with patients. In order to provide students with practical interactions with patients, we arranged 48 sessions of community outreach service and reached out to 3122 community-dwelling older patients. Students were assigned to carry out various duties during outreach service, such as conducting health interview, providing basic health check-up service, and giving health education to the patients. As a result, students could gain real world experiences on handling health enquiries from real patients and learned how to explain complicated medical information in layman's terms.

**Summary of Results:** We saw significant improvements toward students' geriatric care knowledge, satisfaction of interprofessional collaboration, and communication skills with older patients after the project. Students responded that they were more confident to explain health condition to patients. Furthermore, they appreciated this IPE learning experience as they got to serve with students of other disciplines and able to understand the physical and psychosocial needs of the patients through their direct interaction during outreach service.

**Discussion and Conclusions:** Patients play an important role in interprofessional service learning. They are helpful for the growth of healthcare students and the development of high quality patient care in the long run.

**Take-home Messages:** In parallel with providing health service, students can also learn valuable real world experience from patients and understand their needs. On the other hand, collaborating with peers from other healthcare professions can also broaden their perspectives in patient care.

## #7KK Posters – Interprofessional Education 1

### 7KK09 (1777)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Promoting student contribution at Interprofessional Education workshops - differences among eight health professions

#### AUTHOR(S):

- Chiharu Kawakami, St. Luke's International University, and Tokyo Medical and Dental University, Japan (Presenter)
- Kumiko Yamaguchi, Tokyo Medical and Dental University, Japan
- Nobutoshi Nawa, Tokyo Medical and Dental University, Japan
- Mina Nakagawa, Tokyo Medical and Dental University, Japan
- Jun Tsuruta, Tokyo Medical and Dental University, Japan
- Keiichi Akita, Tokyo Medical and Dental University, Japan

#### ABSTRACT

**Background:** An ageing society requires coordinated and collaborative care between nurses, doctors, and other healthcare professionals. Consequently, the undergraduate curricula of these professions should provide opportunities for students to gain the competencies necessary to provide such care. Thus, in 2012, we began organising a multidisciplinary Interprofessional Education (IPE) workshop for final year healthcare students. The present study was undertaken to investigate factors that influence student contribution at IPE workshops.

**Summary of Work:** Our university conducted an IPE workshop in 2018. About 340 final year students from eight health professions participated in a two-day case-based IPE workshop. A case containing systemic, oral, and social issues was prepared to promote active participation of all students in small, mixed-group discussions. All students completed post-participation questionnaires. A survey was conducted on the questionnaires, focusing on the following items: 1) a 1-8 rating of the workshop's contribution, 2) a 1-4 satisfaction rating, and 3) students' comments and reflections on the workshop (from students in programmes with contribution ratings in the lower tertile). Descriptive statistics and correlation analyses between contribution and satisfaction were performed on the quantitative data in items 1 and 2, while inductive qualitative analysis was conducted on item 3; both sets of data were convergent.

**Summary of Results:** The mean ratings for contribution and satisfaction were 5.50 and 3.74 points, respectively. The contribution and satisfaction ratings were positively correlated ( $p < 0.01$ ). From the eight health professions, the highest contribution rating was among medical students (6.05 points). The professions with the lowest contribution points were medical technology (4.53 points) and oral health (4.70 points). The comments of medical students in the lowest tertile for contribution revealed a theme of 'inability of the leadership to advance discussion'. Additionally, analysis of comments from students with lower contribution ratings revealed 'a shortage of professional knowledge' and 'inability to demonstrate their own profession'.

**Discussion and Conclusions:** Results suggest a correlation between students' contribution and satisfaction, with differences between the eight healthcare professions. It is necessary to prepare programs that can demonstrate their expertise.

**Take-home Messages:** Expertise as a professional would be necessary for better learning at IPE.



## #7KK Posters – Interprofessional Education 1

### 7KK10 (2648)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Assessment of Functional Ability and Rehabilitation Course - Interprofessional Pilot

#### AUTHOR(S):

- Katri Salokangas, University of Eastern Finland, Finland (Presenter)
- Henna Saari, University of Eastern Finland, Finland
- Pekka Mäntyselkä, University of Eastern Finland, Finland

#### ABSTRACT

**Background:** Internationally it's considered increasingly important for social and health professionals to be able to do impressive work in interprofessional teams. Assessment of functional ability and composing of rehabilitation plan based on the international ICF classification can't, in practice, be achieved without an interprofessional process. Currently students in different fields (rehabilitation, medicine and social work) study separately in their own subjects without common study contents. The interprofessional pilot of The Assessment of Functional Ability and Rehabilitation Course aims to develop a course where collaborative studies in three different fields will provide better skills than currently for interprofessional functional ability and rehabilitation assessment in practical working life.

**Summary of Work:** The 6th annual course medical students, the 4th annual course rehabilitation students and the advanced students of social work will participate in the pilot, about 30 students from each field. The pilot is implemented in November 2019. Moodle is used as a network learning platform. Each field will write out its own intentions and common goals for interprofessional work will be formed together. The contents of the course include a network-based pre-learning material, an interprofessional rehabilitation meeting as a simulation training and learning assignments, which are an interprofessional rehabilitation plan and a learning diary.

**Summary of Results:** At the beginning and in the end of the course, students complete a valid RIPLS questionnaire (Readiness Towards Interprofessional Learning Scale) which measures the student's attitudes and readiness. The achievements of other learning objectives are measured by using a learning diary. There is also a possibility to compare rehabilitation plans if there is differences between the pilot group and the rest of the medical course students which do it without the interprofessional team.

**Discussion and Conclusions:** If the experiences of the pilot course are good, there is a plan to expand interprofessional learning for all medical students of the 6th annual course on this subject.

**Take-home Messages:** It's well recognized that there should be interprofessional learning already for the undergraduate students. It turns attitudes towards interprofessional working more positive. Functional ability assessment and rehabilitation plan composing are interprofessional also in real social and health care work.

## #7KK Posters – Interprofessional Education 1

**7KK11** (638)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### A successful, enjoyable interprofessional education program for first-year healthcare students

#### AUTHOR(S):

- **Ryota Asai, Nagoya University School of Medicine, Japan (Presenter)**
- Mina Suematsu, Nagoya University Graduate School of Medicine, Japan
- Kentaro Okazaki, Nagoya University Graduate School of Medicine, Japan
- Noriyuki Takahashi, Nagoya University Graduate School of Medicine, Japan
- Masafumi Kuzuya, Nagoya University Graduate School of Medicine, Japan
- Wataru Ohashi, Aichi Medical University, Japan

#### ABSTRACT

**Background:** Recently, stepwise education for interprofessional education (IPE) has become increasingly important worldwide. Although various IPE programs have been implemented in several universities in Japan, most are lectures. Additionally, evaluations have not been effectively conducted. Therefore, we evaluated the effects of a new, one-day IPE program for first-year undergraduate students.

**Summary of Work:** The IPE program included 316 first-year healthcare students (108 medical and 208 pharmacy students, divided into 33 small groups of mixed professions). Each group played an interprofessional education game and discussed their reactions to a movie related to end-of-life care (Cinemameducation). We evaluated the effect of this program pre- and post-IPE using the Japanese version of the Interdisciplinary Education Perception Scale, which is reliable and validated (Suzuki et al. 2018) for three subscales: 1. self-esteem for their own profession, 2. cooperation with other professionals, and 3. fundamental ability of their own profession. A total of 15 items were scored on a six-point Likert scale.

**Summary of Results:** A comparison of pre- and post-IPE scores showed a significant increase in the total score of both medical and pharmacy students (pre-IPE: 70.56, 66.82; post-IPE: 72.40, 69.42, respectively). Overall, the score for “cooperation with other professionals” showed the maximum improvement. The pre-IPE score for “self-esteem for their own profession” was higher for medical students than for pharmacy students, but the post-IPE score in that area for pharmacy students showed higher improvement. There was no gender difference.

**Discussion and Conclusions:** As an important springboard for interprofessional socialization for novices, we implemented an enjoyable and familiar program using an interprofessional board game and a movie. The students shared the successful experience and their discussions considerably increased “cooperation with other professionals.” Through teamwork in this IPE program, pharmacy students could demonstrate their value and ability to medical students, which enhanced their self-esteem. Further IPE programs involving students of other healthcare professions should be introduced to a stepwise and systematic IPE curriculum.

**Take-home Messages:** A successful IPE program, which involves sharing experiences through enjoyable and familiar activities, is effective for first-year undergraduate students.

## #7KK Posters – Interprofessional Education 1

### 7KK12 (464)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### What barriers to medical-dental collaboration did health professions students find during their clinical education? A pilot study

#### AUTHOR(S):

- Rintaro Imafuku, Gifu University, Japan (Presenter)
- Ryoko Kubota, Asahi University School for Dental Hygienists, Japan
- Saeko Yamada, Asahi University School for Dental Hygienists, Japan

#### ABSTRACT

**Background:** “Mouth is the mirror of general health”. In a super-ageing society, effective medical-dental collaboration has become increasingly important for patient care, such as dysphagia rehabilitation and nutrition support. In developing interprofessional education (IPE) that covers oral and general healthcare, learners’ readiness for and attitude toward medical-dental collaboration need to be explored. This study aims at examining the attitude and awareness of health professions students about collaboration between medical and dental practice.

**Summary of Work:** Semi-structured interviews were conducted with 11 six-year medical and nine third-year dental hygiene students who experienced clinical clerkships in different institutions. A thematic analysis approach was employed to extract the key themes regarding barriers to medical-dental collaboration from the interview data.

**Summary of Results:** The medical and dental hygiene students generally acknowledged the importance of medical and dental collaboration for patient care. However, several barriers to collaboration were also perceived, including professional power and conceptual hierarchy, limited understanding of other professional roles and responsibilities, boundary-blurring, concerns regarding shared responsibility, differences in language and jargon, and lack of primary healthcare providers’ knowledge on oral health.

**Discussion and Conclusions:** Barriers to collaboration were perceived differently by different health professions students. For instance, professional power and hierarchy were emphasised more strongly by dental hygiene students. They tended to view themselves as being in a lower-level position in the ‘imagined’ hierarchy of interprofessional team. Their humble view resulted from their limited knowledge about general health and less responsibility for problems directly related to patient life and death. On the other hand, medical students had traditional perspectives of dental professions regarding dental care and did not understand fully what roles/responsibilities dental professionals assume in general healthcare due to very limited opportunity to interact with dental professionals during their clinical education. Therefore, we need to provide more opportunities in which students in medicine and dentistry learn together, particularly in their clinical education. These findings can be a springboard for future development of IPE to overcome the perceived barriers to collaboration.

**Take-home Messages:** Identifying the similarities and differences in attitudes toward interprofessional collaboration among learners is essential to planning and developing IPE.

## #7KK Posters – Interprofessional Education 1

### 7KK13 (1367)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Student reflections on inter-professional education: what students have learned?

#### AUTHOR(S):

- Chitkasaem Suwanrath, Prince of Songkla University, Thailand (Presenter)
- Thitima Suntharasaj, Prince of Songkla University, Thailand
- Pratyana Thiangchanya, Prince of Songkla University, Thailand
- Nattasiri Thanawuth, Prince of Songkla University, Thailand

#### ABSTRACT

**Background:** The Inter-professional Education (IPE) for Patient Safety Course was set for the final-year of health sciences students, including the 6th year medical students, the 4th year nursing students and the 5th year pharmacy students. The students were divided into 40 groups with 12-13 students from 3 faculties in each group. Learning activities were comprised of a half-day workshop, project-based learning and presentation. The project-based learning was assigned for each group to identify patients' risks in the wards, focusing on medication safety and infection control as well as to propose how to solve the problems.

**Summary of Work:** After completing the course, each group was asked to submit a report with group reflection essays on their experience. The purpose of this study was to perform a qualitative analysis of student reflection essays, so as to evaluate what students have learned from their participation. A total of 40 student essays were analyzed using conventional content analysis.

**Summary of Results:** Qualitative analysis revealed 15 themes in the essays, which were categorized into 4 main themes: IPE program, patient-centered care, team and self. Students had a positive attitude to the program, particularly the project-based learning, as being helpful by improving their understanding of health care systems as well as their roles in future careers. Most students emphasized the influence of IPE on improvement in patient care. Teamwork enhanced their communication skills, respectful attitudes, understanding other professional roles and sharing on their experience. For the "self" category, students enhanced their professional learning, critical thinking and problem solving, situation awareness, social skill, creativity and management skills.

**Discussion and Conclusions:** We have learned from student reflections that a well-organized IPE course with project-based learning would help the students achieve an inter-professional core competency as well as other non-technical skills.

**Take-home Messages:** Reflective writing is an effective method to evaluate what students have learned from a project-based inter-professional education.

## #7KK Posters – Interprofessional Education 1

### 7KK14 (1841)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Differences in effects of interprofessional education workshops by students' discipline and gender among medical and dental students

#### AUTHOR(S):

- Nobutoshi Nawa, Tokyo Medical and Dental University, Japan (Presenter)
- Kumiko Yamaguchi, Tokyo Medical and Dental University, Japan
- Chiharu Kawakami, St. Lukes International University; Tokyo Medical and Dental University, Japan
- Mina Nakagawa, Tokyo Medical and Dental University, Japan
- Takeo Fujiwara, Tokyo Medical and Dental University, Japan
- Keiichi Akita, Tokyo Medical and Dental University, Japan

#### ABSTRACT

**Background:** Studies investigating whether effects of Interprofessional Education (IPE) workshops could vary by students' discipline and gender are scarce. This study's objectives were to assess associations between changes in students' answers concerning various factors of IPE and workshop satisfaction and to examine whether these associations could vary based on students' discipline and gender.

**Summary of Work:** Our university conducted an IPE workshop in 2013 with approximately 250 healthcare student participants. We limited our sample to 108 students from the schools of medicine and dentistry who attended the entire workshop and had complete information for each measure. Pre- and post-workshop questionnaires were requested of students containing multiple questions regarding various factors of IPE. After the session, all 108 students were asked open-ended questions concerning their experience in the IPE session. Multinomial logistic regression was used to determine associations between differences in score and workshop satisfaction. The responses to open-ended questions were analyzed qualitatively by an explanatory sequential design with deductive coding.

**Summary of Results:** Students score increases related to the necessity of the workshop, both in medical and dental, were related to overall workshop satisfaction. Analyses of comments revealed medical students tended to mention their own role in the interprofessional collaboration. In dental students, realizing the difference in perspective among different professions was positively associated with the workshop satisfaction (OR: 6.3, 95%CI: 1.7, 23.9). Also, they tended to use expressions such as "really new to me." Both male and female medical students found necessity, patient understanding, and the role of each profession was associated with satisfaction. Only in male students, understanding one's own role and limitations was associated with satisfaction. Comments from male students revealed the realization that they could discuss things outside of their discipline and make treatment decisions as a team instead of just referring patients to specialists.

**Discussion and Conclusions:** Factors contributing to workshop satisfaction varied by students' discipline and gender. This suggests understanding the differences in factors related to workshop satisfaction is important for tailoring the workshop for maximum effect.

**Take-home Messages:** Factors contributing to the satisfaction of the IPE workshop varied by students' discipline and gender.



## #7KK Posters – Interprofessional Education 1

**7KK15** (3363)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Developing an interprofessional student learning collaboration using simulation to teach technical and human factors

#### AUTHOR(S):

- Ato Ocansey, Education Academy, St Bartholomew's Hospital, UK (Presenter)
- Valance Hughes, School of Health Sciences, City, University of London, UK
- Kaushiga Krishnathasan, Education Academy, UK
- Samantha Hughes, Education Academy, St Bartholomews Hospital. UK

#### ABSTRACT

**Background:** Interprofessional collaboration is essential to patient-centred safe clinical practice, with health professionals of all specialties hailing its importance. Simulation has become an increasingly common mechanism of enhancing performance of technical and non-technical skills. Despite its virtues being well known it remains a challenge to provide good quality inter-professional learning events during the student curricula.

**Summary of Work:** A pilot one-day inter-professional education course consisting of pre-license medical and nursing students from two institutions was developed. The faculty consisted of nurses and physicians with formal teaching qualifications from the two institutions. The focus for half the day was on human factors and team building exercise. The students were introduced through interprofessional team meetings through seminar-based instruction. The second half was spent participating in fifteen-minute role-played immersive simulations using standardised patients (actors) of acute medical emergencies where a collaborative approach was essential in managing the deteriorating patient. Each scenario consisted of participation from two nursing student and medical and learning objectives were assigned to respective curriculums. Structured feedback was given during a post event debrief. Student doctors and nurses concurrently discussed their experiences, management plans and their perceived roles in the workplace as well as reflecting on what they had observed in the future workplaces. Qualitative data was collected during structured debrief sessions and post-course focus groups and anonymous questionnaire, utilising a ten-point Likert scale.

**Summary of Results:** Nine final year nursing students and three final year medical students voluntarily participated in this course. Students demonstrated increased understanding of the role of their inter-professional colleagues (including communication, teamwork and role delineation). The collective students viewed the course as relevant for their future as practitioners. Participants also appreciated early explicit exposure to human factors and crisis resource management as well as clinical skills.

**Discussion and Conclusions:** We present a highly approved and active method of providing interpersonal collaborative learning, covering technical and non-technical skills. Hopefully these skills will be taken into the postgraduate workplace.

**Take-home Messages:** Shared inter-professional learning through simulation is a useful method of teaching technical and non-technical factors.

## #7KK Posters – Interprofessional Education 1

### 7KK16 (3458)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

**Same Role. Different Profession: A quasi-experimental study of an inter-professional prescribing masterclass featuring undergraduate medical students and nonmedical graduate prescribing students**

#### AUTHOR(S):

- Alexandra Rolfe, University of Edinburgh, UK (Presenter)
- Alison Mackie, NHS Lothian Pharmacy, UK
- Ruth Paterson, Napier University, UK

#### ABSTRACT

**Background:** Prescribing is a high risk and complex skill that a number of health professionals can undertake. Errors are common, up to 11% of all prescriptions, and many are attributable to lack of communication and collaboration. This study evaluated an inter-professional educational intervention, designed to help learners gain skills in prescribing and collaborative practice, shown to improve quality of prescribing and patient safety.

**Summary of Work:** A quasi-experimental mixed methods study of a prescribing intervention for medical students, nurse and pharmacy prescribing students. The students worked together to formulate evidence-based prescriptions. A uni-professional group of medical students only acted as a control. Quantitative data were obtained using pre and post readiness for inter-professional learning (RIPLS) and self-efficacy scores and a final prescription was analysed for errors using the prescription quality index (PQI). Qualitative data, gained via free-text comments, was thematically analysed.

**Summary of Results:** Self-efficacy scores significantly increased in all the professions in the inter-professional group (medical student/nurse/pharmacist) compared to the uni-professional group ( $P < 0.05$ ). RIPLS scores significantly increased for inter-professional medical students only ( $P < 0.05$ ). There was no significant change in PQI scores between the groups. Thematic analysis suggested positive attitudes towards collaborative learning, increased understanding of other's roles and the benefit of teamwork on patient care.

**Discussion and Conclusions:** Students from different professions value learning in an inter-professional environment with improvements in self-efficacy and more positive attitudes and greater understanding of other's roles, suggesting IPE should be fully embedded into healthcare curriculum. However, no change in prescription quality between the groups was observed, an area which requires further research.

**Take-home Messages:** Inter-professional education can be a very valuable learning experience that helps with understanding of others roles and promotes teamwork and communication, especially if these overlap. However, it must be carefully planned and situated in the differing educational curricula to promote positive outcomes.

## #7KK Posters – Interprofessional Education 1

7KK17 (3015)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Simulation-Based ICU Bed-Side Rounding Required IPE Course for American Medical School Students

#### AUTHOR(S):

- Valeriy Kozmenko, USD SSOM, USA (Presenter)
- Jessica Simpkins, USD SSOM, USA
- Mark Beard, USD SSOM, USA
- Shane Schellpfeffer, USD SSOM, USA
- Karri Potter, USD SSOM, USA
- Michelle Schimelpfenig, USD SSOM, USA

#### ABSTRACT

**Background:** All healthcare providers are expected to be competent within the scopes of their specialty and proficient in teamwork. One of the highest priorities of healthcare education is to improve interprofessional education through activities in which students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes. Fast paced low-capacity healthcare environments such as operating rooms and intensive care units necessitate providers be competent and efficient in working within interprofessional teams.

**Summary of Work:** We developed and are piloting an innovative, simulation-based ICU bed-side rounding course. The course contains both clinical and interprofessional components. The clinical aspect of the course provides a framework within which interprofessional education takes place. Prior to the activity, students receive didactic teaching and patients ICU chart. At the simulation center, an inter-professional group of students participates in the simulated ICU bed-side rounding. This activity involves students of different backgrounds educating one another about their scopes of practices, roles and responsibilities, strengths and limitations as well as treatment goals and associated challenges. This activity allows healthcare students to develop a shared mental model of patient care in the ICU, improve the clarity of their roles, and set realistic expectations with each other. Students IPE core competencies are assessed with a 360-degree assessment instrument.

**Summary of Results:** The course is currently in the implementation phase and data are being collected. By the time of the presentation, we will have the preliminary data to report.

**Discussion and Conclusions:** Modern healthcare providers are expected to display proficiency with interprofessional teamwork. This skill needs to be taught by academia, and it will likely be required teaching by the corresponding accrediting bodies. IPE courses need to be tailored to national and international IPE competencies and their effectiveness needs to be assessed with an outcome-based measure. ISBR-IPE course is an attempt to develop a standardized teaching methodology and assessment instrument that could be used in healthcare education.

**Take-home Messages:** There is a need in development of standardized teaching methodologies and outcome-based assessment instruments tailored to achieving national and international IPE competencies. USD SSOM ISBR-IPE course is one of the first attempts in that direction.

## #7KK Posters – Interprofessional Education 1

### 7KK18 (509)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Modeling the effect of social interdependence in interprofessional collaborative learning

#### AUTHOR(S):

- Ikuo Shimizu, Shinshu University, Japan (Presenter)
- Tsuyoshi Tada, Shinshu University, Japan
- Teiji Kimura, Shinshu University, Japan
- Robbert Duvivier, University of Newcastle, Australia
- Cees van der Vleuten, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** Interprofessional education (IPE) enables effective collaboration between multiple health professions for better health outcomes and becomes a popular educational model. In IPE, collaborative learning approaches are often used for that purpose. However, it is difficult to transfer the interprofessional working competency into an IPE program by collaborative learning effectively. How collaborative learning may induce this competency is still a debate. Social interdependence, comprised of boundary (group identity), means (role and task), and outcome (goal and rewards), may be a key dimension because it is not only a theoretical background of collaborative learning but also a paramount factor for interprofessional work. This study aims to clarify the relationships between learners' perceived social interdependence in collaborative learning and readiness of interprofessional learning.

**Summary of Work:** We asked fourth year health professions students undertaking a collaborative IPE class (n=259) to complete two questionnaires: the Japanese validated version of Readiness for Interprofessional Learning Scale (RIPLS) and Social Interdependence Scale in Collaborative Learning (SOCS; Shimizu et al., presented at AMEE 2018). Structural equation modeling was performed for analysis of the relationships among factors in these questionnaires.

**Summary of Results:** In total, 228 (88.0%) students completed all items of RIPLS and SOCS. The structural equation model provided a good fit; chi-square = 2.396 (p = 0.302), CMIN/df = 1.198, CFI = 0.999, RMSEA = 0.030, and TLI = 0.996. All path coefficients were significant but one (means -> interprofessional collaboration; p = 0.206). Boundary and outcome interdependence positively predicted interprofessional collaboration and interprofessional identity, whereas means interdependence negatively predicted interprofessional identity.

**Discussion and Conclusions:** Outcome interdependence did not affect interprofessional identity. Furthermore, while tasks in collaborative learning should be realistic, such tasks in IPE may make learners' work specialized and decrease their interprofessional identity. This can be called an "IPE dilemma". This study has shown that the factors in social interdependence in collaborative learning lead to different association regarding readiness for interprofessional learning. To overcome the dilemma, we have to elaborate any IPE program for more positive social interdependence, especially boundary.

**Take-home Messages:** Some strategies which bind members as an entity may make IPE more effective, such as team building activities and debates among teams.

## #7KK Posters – Interprofessional Education 1

### 7KK19 (1286)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Retentive learning of closed-loop communication - a post simulation focus group interview study

#### AUTHOR(S):

- Sabine Nabecker, Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern, Switzerland (Presenter)
- Joana Berger, Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern, Switzerland
- Fabian Bürgi, Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern, Switzerland
- Sören Huwendiek, Department of Assessment and Evaluation, Institute of Medical Education Bern, University of Bern, Switzerland
- Francis Ulmer, Department of Paediatric Intensive Care Medicine, Bern University Hospital, University of Bern, Switzerland
- Robert Greif, Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern, Switzerland

#### ABSTRACT

**Background:** In-situ simulation trains human factors in medicine. The Bern University Hospital's Paediatric Intensive Care Unit (PICU), Switzerland, launched an interprofessional in-situ simulation in 2017 focusing on closed-loop communication (CLC). An observational before-and-after study measured application and sustained use of CLC in daily clinical practice of PICU-nurses. Answers to commands improved after simulation, and were sustained for a 3-month observation period, especially in critical, noisy, and stressful situations. Interviewing nurses, who participated in the previous simulation, this focus-group study investigated their thoughts, feelings and attitudes with the goal of deepening our knowledge about the learning of communication patterns during simulation, and which factors foster retention of competence.

**Summary of Work:** 10 nurses from the former simulation study agreed to participate in focus-group interviews about one year after. Video-recorded data was anonymised and transcribed. After member checking, we analysed the data qualitatively (MaxQDA2018; Standard-Version 18.1.1, VERBI Software, Berlin, Germany), and performed a thematic analysis (Braun 2006 77-101). We generated initial codes and collated them into properly named themes. At the conference, the final result and report of the thematic analysis will be presented.

**Summary of Results:** Most participants transferred the learnt communication skills from the simulation environment to their clinical daily life; specifically they closed the communication cycle by responding consciously if a "call-out" reached them. They highly valued the increased self-awareness of their communication habits with all the team members, not just with the nurses. Performed "Team-Time-Outs" (TTO) and observed CLC were considered fostering factors to improve their own communication skills. A "critical-mass effect" was described. As soon as most nurses completed the simulation, communication at the PICU improved observably. The study personnel was not an influencing factor on communication patterns.

**Discussion and Conclusions:** This focus group interview study revealed factors that contributed to increased and sustained use of CLC after interprofessional simulation. Awareness of the answering process and structured exchange (TTO) fostered their communication, and was seen to improve the PICU-team spirit and collaboration between physicians and nurses.

**Take-home Messages:** Interprofessional in-situ simulation improves closed-loop communication patterns in PICU clinical daily life.



## #7LL Posters - Assessment: Written and Standard Setting

### 7LL01 (468)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Using the “Think-aloud” approach in Script Concordance Test to better assess Clinical Reasoning in medical students

#### AUTHOR(S):

- Michael SH Wan, University of Notre Dame, Australia (Presenter)
- Elina Tor, University of Notre Dame, Australia
- Judith N Hudson, Faculty of Health and Medical Sciences, University of Adelaide, Australia

#### ABSTRACT

**Background:** Script Concordance Testing (SCT) is a valid and reliable modality for assessing clinical reasoning. A clinical scenario is presented and students are asked to assess whether an additional information increases or decreases the probability/appropriateness of the diagnosis, investigation/management. The “think-aloud” approach could elicit the students’ response processes; i.e. clinical reasoning in answering each SCT question.

**Summary of Work:** Twelve and 11 SCT online questions were given to Year 3 & 4 students respectively as practice examinations. Students were asked to justify each answer. The answers were compared with the expert panel (n=15) and marked according to the classical SCT aggregated (weighted) scoring method. Immediately following the examination, students were given the modal answers and the experts’ clinical reasoning behind each decision; as immediate feedback. Students’ justifications were analysed and compared with experts’ reasoning to look at the concordance.

**Summary of Results:** The response rate was 62% (total 134 students). The mean score was 69% (2.5 S.D below the expert panel’s mean). Ninety three percent of students’ reasoning justification was concordant with the experts. Three percent had incorrect clinical reasoning even with a correct modal answer chosen.

**Discussion and Conclusions:** The students performed satisfactorily in the formative online practice environment. Most students demonstrated the correct clinical reasoning in deriving their response to SCT items. A few students (3%) used incorrect reasoning even when they had chosen the panellists’ modal answer. This suggests the plausible threat to SCT scores interpretation due to construct irrelevant variable. The think-aloud approach allows students to compare their clinical reasoning with that of the expert panel to further develop their reasoning skills. In the cases of incorrect responses; expert response explanations can provide formative feedback for learning. Analysing the think-aloud component of the SCT also allows the reasoning behind the student response process to be further assessed.

**Take-home Messages:** The use of SCT with a “think-aloud” approach can be a very useful assessment modality which provides rich information for learning.

## #7LL Posters - Assessment: Written and Standard Setting

### 7LL02 (3335)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### What's in it for me? Students' Perspective on Relevance of Items in the National Medical Licensing Examinations in Germany

#### AUTHOR(S):

- Lucas Thieme, German Medical Students Association (bvmd e.V.), Germany (Presenter)
- Nikolas Psathakis, German Medical Students Association (bvmd e.V.), Germany
- Aurica Ritter, German Medical Students Association (bvmd e.V.), Germany
- Martin Hendelmeier, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
- Jana Junger, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany

#### ABSTRACT

**Background:** The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy (IMPP) is responsible for the draft of state examinations in Germany and - together with health care professionals with long experience in medical education - develop the German state examinations in Medicine. One of the most important aims of the state examination is to assure that medical students are “fit for the first day” as health care professionals, fulfilling the CanMEDS Framework. As medical students are immediately affected and possible future medical teachers, their perspective on the relevance of items in the national medical licensing examinations in Germany is of concern.

**Summary of Work:** Overall, 60 medical students were trained at the IMPP concerning BLOOM-taxonomy, classification systems and interrater-training. Throughout this process from August 2018 until today, the medical students operated in working groups and evaluated 3133 items of 14 exams. Along this progress different sub-criteria were correlated with the subjective assessment of item relevance, e.g. ‘difficulty level’, ‘relevance of the item’s topic’, ‘topic taught in our own medical school’, ‘clinical relevance’, ‘item should be excluded in future’ and ‘vignette evaluation’.

**Summary of Results:** To show exemplary part of our results, a high clinical relevance correlates with a low intention of excluding the corresponding item ( $r = -0,727$ ). We also ensured that the difficulty level of an item does not correlate with the intention to exclude it ( $r = -0,004$ ). We have raised descriptive statistics of impact factors on exam items as well.

**Discussion and Conclusions:** Items with a high clinical relevance will remain in future medical exams while items with low clinical relevance will be eliminated. Thus, the evaluation results will be used to improve further medical state exams through changing criteria for item choice.

**Take-home Messages:** Taking into account the students’ perspective on the relevance of items in Germany’s national medical licensing examinations is important to improve upcoming state examinations. As assessment drives learning, this process can contribute to “fit for the first day” health care professionals.

## #7LL Posters - Assessment: Written and Standard Setting

### 7LL03 (450)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### An Investigation of Distractor Functionality on the International Foundations of Medicine Clinical Science Examination based on Low-stakes and High-Stakes Testing Contexts

#### AUTHOR(S):

- **Raja Subhiyah, National Board of Medical Examiners, USA (Presenter)**
- Carol Morrison, National Board of Medical Examiners, USA
- Craig Stevens, National Board of Medical Examiners, USA
- Beth Gallagher, National Board of Medical Examiners, USA
- Allison Kulesher, National Board of Medical Examiners, USA
- Brownie Anderson, National Board of Medical Examiners, USA

#### ABSTRACT

**Background:** Research suggests that three options (two distractors) are optimal for multiple choice questions in most cases. Additional distractors are typically selected by few examinees and are essentially nonfunctional. Raymond and Stevens argued that traditional definitions of a nonfunctional distractor may not be appropriate for medical education examinations designed to be mastery tests. They applied a new index for evaluating distractors that considers item difficulty and found that 34% of the items on a physician licensing examination had three functional distractors.

**Summary of Work:** This study extends the distractor research by applying traditional and new distractor indices to items from the International Foundations of Medicine (IFOM) Clinical Science Examination (CSE). All items with five options from one IFOM CSE English language form (n=116) were analyzed. Given that IFOM CSE is an international examination used for both low-stakes purposes such as benchmarking and curriculum evaluation and high-stakes purposes such as certification and residency selection, distractor functioning was examined for both testing contexts. The impact of eliminating distractors on test difficulty and score reliability was also investigated by eliminating the least popular distractor and by random distractor deletion.

**Summary of Results:** Regardless of which index was used to identify nonfunctioning distractors, the percentage of functioning distractors was considerably higher on IFOM CSE than the percentage reported in most previous studies and was higher when calculated based on high-stakes rather than low-stakes administrations. All four distractors were functional based on both indices for the high-stakes context and three distractors were functional for the low-stakes context. Both methods of eliminating distractors resulted in slightly easier tests with slightly less reliable scores.

**Discussion and Conclusions:** Although previous research shows that most items only have two functioning distractors, this study found that more distractors on IFOM CSE are functional. IFOM CSE is used by organizations and schools in many countries for a variety of purposes. Given its international population and different testing contexts, items with four or five options may be preferred for IFOM CSE.

**Take-home Messages:** Test development practices should be guided by the context in which the examination is administered.

## #7LL Posters - Assessment: Written and Standard Setting

### 7LL04 (882)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

## A Collaborative Platform to Manage High Quality Assessment Items on a Large Scale

### AUTHOR(S):

- Yan Jin, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Shekhar Kumta, The Chinese University of Hong Kong, Hong Kong
- Ho Keung Ng, The Chinese University of Hong Kong, Hong Kong
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- Alex L. K. Yung, The Chinese University of Hong Kong, Hong Kong

### ABSTRACT

**Background:** High Quality assessment items are desired in the many high stakes professional examinations that take place during each of the several years of undergraduate medical studies. Producing new assessment items, continuously, is certainly not an easy task for academic teachers, as well as practicing clinicians, particularly in the context of time-pressures, given their teaching, service and research commitments. Assessment items need to be developed, scrutinized, delivered and measured for their psychometric properties, before they could be considered as high quality. Assessment items not only need quality assurance but also need to be securely stored, and made available to various disciplines across the faculty.

**Summary of Work:** Faculty of Medicine, The Chinese University of Hong Kong (CUHK) has developed a multiplatform, to provide a standardized assessment item format for content experts to create assessment items and to review their performance by evaluating their psychometric performance data. This user-friendly multi-function interphase has powerful administrative features that enable users to classify items according to MeSH headings and user defined criteria, to deliver them across various disciplines, and to collaborate with other institutions for sharing items.

**Summary of Results:** This collaborative platform has been shared by 30 International medical schools. A multi-disciplinary assessment bank has a database of over 28,000 Items - each well classified according to Taxonomy, Discipline, Psychometrics amongst other parameters. Psychometric data on items used in examinations is continuously updated and enables the development of tests to suit desired learner characteristics. Office of Medical Education (OME) is a centralized resource office in Faculty of Medicine, CUHK. Item writing professionals facilitate quality items writing for teaching staff among faculty departments. An Item bank administrator in OME facilitates teaching staff and department administrators on managing individual departmental item bank via this platform.

**Discussion and Conclusions:** Faculty of Medicine, CUHK has maintained and utilized this platform to support assessments across the 6-year undergraduate curriculum. Each year more than 200 examinations involving 8000 assessments items are administered across 13 departments/divisions within the faculty.

**Take-home Messages:** A Centralized, user-friendly, multi-function and a robust platform is a practical and effective way for the security and maintenance of high quality assessment items, that could be shared locally or internationally.

## #7LL Posters - Assessment: Written and Standard Setting

7LL05 (2251)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Objective Structured Knowledge Assessment (OSKA) - a novel formative assessment tool

#### AUTHOR(S):

- Adam T Misky, Imperial College School of Medicine, UK (Presenter)
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#### ABSTRACT

**Background:** The importance of asking questions to enhance teaching for medical professionals has been recognised in educational literature. The ability to articulate responses to clinical questions is a vital skill in the clinical environment. Increasing clinical service pressures have led to a decline in encounters where students are exposed to this style of learning. Assessment of medical students' ability to articulate responses to clinical questions is minimal in undergraduate examinations. We developed a formative assessment tool, the Objective Structured Knowledge Assessment (OSKA), where students are questioned on specific clinical topics and scenarios, and encouraged to articulate their thinking process.

**Summary of Work:** Students who attended the OSKA completed an anonymous questionnaire of 13 questions relating to student satisfaction, clinical and curricular relevance, and feedback compared to traditional clinical teaching immediately after the OSKA. Answers were collected using a five-point Likert scale. We examined the correlation between the students' performance in the OSKA, and single best answer (SBA) questions assessing the same clinical topics.

**Summary of Results:** 214 students took the OSKA, of which 125 students answered the questionnaire. 97.6% of students were very satisfied or satisfied with the quality of the session. 99.0% of students thought the topics discussed were clinically relevant. 79.2% of students felt more at ease and 84.8% felt more engaged by the session than available conventional clinical teaching. 82.4% of students felt the quality, and 85.6% of students felt the quantity of feedback received was better than feedback offered at available conventional clinical teaching sessions. Pearson correlation between the students' OSKA scores and SBA scores was 0.233 ( $p < 0.001$ ).

**Discussion and Conclusions:** The OSKA enhanced the students' learning experience significantly. An overwhelming majority of students felt this session was in some respects superior to the available conventional clinical teaching, which remains the gold standard. The statistically significant weak correlation between OSKA and SBA scores suggests that the two tests are assessing different constructs.

**Take-home Messages:** The OSKA is an acceptable formative assessment tool, that can help enhance students' ability to articulate their answers in response to clinical questions.



## #7LL Posters - Assessment: Written and Standard Setting

7LL06 (3108)

**Date of Presentation:** Tuesday, 27 August 2019

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### Psychometric-evaluation-guided improvement in assessment quiz of a speciality department in undergraduate medical education at King Khalid University, Saudi Arabia

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Specialty subjects such as dermatology, anaesthesiology, psychiatry etc are generally not considered important by the undergraduate medical students as they have relatively lower weightage in the assessment grades. Hence many aspects of the teaching-learning exercise in such subjects suffer, affecting the outcome of medical education.

**Summary of Work:** Item analyses of all graded multiple-choice question-based quizzes is routinely conducted by the department of medical education at King Khalid University. Discrimination index, difficulty index, distractor index and K-20 values for all items are calculated and analysed. Based on the findings of the item-analyses, the course co-ordinators are provided detailed feedback of all the graded quizzes. Quizzes conducted by a specialty department (name not disclosed) for the student assessment for semester ending December 2017 fared poorly on most of the indices. Based on these findings, a detailed analysis of the results was conducted in meetings with co-ordinators and faculty members of the concerned subject. Faculty members were provided specialised trainings by the medical education department regarding how to construct high quality MCQs. Problems in content delivery were also identified and measures taken.

**Summary of Results:** Item analyses for the next semester (May 2018) showed some improvement. The item analysis of the quizzes was again performed at the end of the next semester (December 2018) and significant improvement in most of the item analysis indices was seen as compared to the first reading (December 2017). Acceptable questions improved from 16% to 61%, while the percentage of items with zero non-functioning distractors rose from 11% to 41%.

**Discussion and Conclusions:** Item analyses guide the faculty in improving the questions/items and removing the defective ones from the question bank. In our study, there was a significant improvement in the quality of the quizzes by undertaking the psychometric evaluation (item-analysis) guided measures.

**Take-home Messages:** Psychometric evaluation of MCQ quizzes provide a valuable opportunity to improve the quality of the quizzes and the overall teaching-learning process.

## #7LL Posters - Assessment: Written and Standard Setting

### 7LL07 (1570)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Know when to hold 'em: Answer changing behaviors in second year medical students

#### AUTHOR(S):

- Terrence Miller, Touro University Nevada College of Osteopathic Medicine, USA (Presenter)
- Kristina Lindquist, Touro University Nevada College of Osteopathic Medicine, USA

#### ABSTRACT

**Background:** We analyzed data from Examsoft computer-based exams to explore novel aspects of answer-changing behavior on medical school multiple-choice exams. We addressed the following: does the score improvement from changing answers outweigh the cost in extra time spent on the questions? Do students change answers before or after all questions have been addressed?

**Summary of Work:** Exam data for twenty second-year osteopathic medical students were analyzed. Students were evenly selected from top and bottom academic quartiles. Exams used for analysis were the academic year's first (198 questions), fifth (204), and tenth (235). Data included: number of questions changed from incorrect-to-correct, correct-to-incorrect, incorrect-to-incorrect; number changed before and after all questions had been viewed; average time spent on questions with changed answers compared to overall average time per question.

**Summary of Results:** 3.3% of answers were changed on average, with little variance between exams or quartiles. Net benefit on an exam varied from 0 to +2.3 correct responses per student. 15% to 34% of changed answers were incorrect-to-incorrect. Students across both quartiles and all exams made 23% to 43% of answer changes before all questions had been viewed. Among students in the top and bottom quartiles, time per question increased by 130 and 84 seconds, respectively, for questions with answer changes.

**Discussion and Conclusions:** Overall our students' exam scores were modestly increased as a result of the changed answers, corroborating reports by others. However, considerable additional time was spent on these questions. Reconsidering questions and changing answers during an exam increases the risk of not completing all exam questions. On a 400 question licensing exam such as COMLEX-USA Level 1, spending two additional minutes on 3% of the questions increases testing time by 24 minutes. The frequency of incorrect-to-incorrect changes indicates that students did not grasp material tested by the question, despite spending additional time.

**Take-home Messages:** When a student is indecisive concerning a question, the student should flag it and continue testing without returning to the question. After all questions have been answered, the student should return to flagged questions to reconsider answers. For these questions, students should also carefully consider answers initially discounted as obvious distractors.

## #7LL Posters - Assessment: Written and Standard Setting

### 7LL08 (1428)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Direct comparison of very short answer versus single best answer questions for medical students in a pharmacology course

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#### ABSTRACT

**Background:** Single best answer questions are the classical tools used in medical examination. However, single best answer questions certainly do not mirror the typical clinical situation where there is generally not the choice between just five different drugs.

**Summary of Work:** Medical students (n=211) were given a formative online test which could lead to higher marks in their obligatory pharmacology course work. For each of 30 pharmacological items, two questions were created, one in a single best answer format (one out of five), and one in a very short answer format. Participants in group A were given 15 single best answer questions first, and 15 very short answer questions last (responses to short answer questions were assessed semi-automatically: minor misspellings and valid alternative drugs were accepted, typical right answers were stored in the software. The same questions were given to group B, but in a reversed order. Participants were given 90 seconds for each question.

**Summary of Results:** When single best answer questions were provided first (group A), the results were better (sign test and binominal distribution, two sided statistics with  $p < 0.05$ ), than in students that were given single best answer questions last (group B). Moreover, scores on single best answer questions tests were higher than scores on very short answer tests ( $p < 0.05$ ) when asked first. However, in two of fifteen questions, results were better in the very short answer format than in the single best answer format. Some questions were nearly identically answered in both formats whereas in at least one question hardly any right answers (2 %) were obtained in very short answers whereas the companion single best question was correctly answered by nearly all students (96 %).

**Discussion and Conclusions:** We suggest that in giving more than fifteen single best answer question, there is going to be exhaustion which deteriorates the performance of students. Moreover, even in direct comparison single best answers are an easier format than very short answers.

**Take-home Messages:** These data suggest that very short answers are more demanding and we hypothesize (and are going to study) whether learning objectives are more faithfully recorded after longer time when given as very short answers.

## #7LL Posters - Assessment: Written and Standard Setting

### 7LL09 (2170)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Problematic Multiple Choice Questions: the students' view

#### AUTHOR(S):

- Isabel Neto, Faculty of Health Sciences, University of Beira Interior, Portugal (Presenter)
- Gonçalo Carneiro, Faculty of Health Sciences, University of Beira Interior, Portugal

#### ABSTRACT

**Background:** Tests with multiple choice questions are used in most medical schools to assess knowledge. It is difficult to construct good quality items and there are published articles and guidelines that can help teachers on their job. However, many times we see that these rules are not followed which can negatively influence students' performance and on the other hand favour those who doesn't know the content and have the ability to take advantage of errors and clues. Our aim was to know the perception of medical students about the negative influence of errors in the construction of MCQs on the way they answer and also their ability to give correct answers taking advantage of item flaws and suggestions.

**Summary of Work:** We conducted a survey to all medical students (N=946) where we used the guidelines of NBME Item Writing and asked about the negative influence of not using those guidelines in their performance. We also used examples of MCQs with more frequent construction errors where students were asked to guess the correct answer.

**Summary of Results:** 728 students answered the survey. Overall medical students have the perception that MCQs that don't follow the rules for their construction have a negative influence in their performance (74,7%). The more negative influences were the question being confuse (96,8%) and complicated distractors (95,2%). Inversely the factor that students consider to have no negative influence or little influence was the use of clinical vignettes or problems (54,8%), with a difference between students of pre-clinical (41,7%) and clinical (70,7%). About students' ability to answer questions with flaws and suggestions results show that they are less able to use convergence strategy (9,3%) but more able to take advantage of logical and grammatical clues (90,2%).

**Discussion and Conclusions:** Our results show that common errors in the construction of MCQs may have a high negative impact on students' performance and the use of clinical vignettes or problems may mitigate it. Students reveal that they may take advantage of those errors.

**Take-home Messages:** Good quality of MCQs are appreciated by medical students and makes assessment more fair.

## #7LL Posters - Assessment: Written and Standard Setting

### 7LL10 (3219)

**Date of Presentation:** Tuesday, 27 August 2019

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**Location of Presentation:** Hall/Foyer F, Level 0

### Improving learning experiences guided by Progress Test

#### AUTHOR(S):

- Daniela Chiesa, Universidade de Fortaleza, Brasil (Presenter)
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- Matheus Martins, Universidade de Fortaleza, Brasil

#### ABSTRACT

**Background:** The Progress Test (PT) is a knowledge assessment tool, with multiple choice questions of Internal Medicine, Public Health, Surgery, Pediatrics, Basic Sciences and Obstetrics&Gynecology, applied to all students of one course. Our Medical School integrates a 8-schools Brazilian regional consortium.

**Summary of Work:** All students (1 to 6y) perform the consortium PT, at the same time in all schools, since 2013, and we use PT for curriculum quality-assurance and evaluation of curriculum outcomes. After the first PT, clerkship students had above-average results on the test (69.7% versus 65.7%), except in Surgery (58% versus 61%), in comparison with consortium students. A previous review in curriculum structure evidenced that surgical competences development should be reviewed and these results reinforced the need of improve learning experiences in Surgery.

**Summary of Results:** A committee composed of students and faculties was called to review the surgery area. The group identified the best moments within curriculum structure and learning environment that surgical competences could be reinforced or developed in tutorial sessions, skills laboratory, inpatient/outpatient clinics and primary care, focused on improving learning experiences. A basic surgical skills clinic and a rotation focused in small surgical procedures was inserted in a primary care unit in Y4. In addition, surgical simulation environments were inserted on Skills Lab. Low-cost models were created by teachers and students for training skin suture, thoracic drainage, thoracocentesis and paracentesis. Problems were inserted in tutorial sessions, focusing on differential diagnosis and surgical-clinical reasoning of the most prevalent surgical conditions for general physician. The clerkship rotations increased learning experiences in general hospital surgical ward and emergency room. According to 2016's results, clerkship students had a surgery score of 64.1%, above the average of consortium students (59.5%).

**Discussion and Conclusions:** The results of PT were reassessed after two years of the changes and evidenced an increase cognitive learning in surgery by the students of different years. These adjustments increased curricular insertions of surgery and improved integration with other areas of medical knowledge. The improvements in surgery were a positive curriculum outcome after the induced changes.

**Take-home Messages:** The PT was an important tool for program evaluation and these results, combined with other interventions, allowed curricular changes.



## #7LL Posters - Assessment: Written and Standard Setting

7LL11 (1743)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Make a quiz, gain knowledge

#### AUTHOR(S):

- Watcharaphol Poonual, Uttaradit Hospital, Thailand (Presenter)
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#### ABSTRACT

**Background:** Making a quiz may enhance knowledge retention. However, scarce robust evidence is found in medical education. This study aimed to assess student understanding and knowledge retention through constructing three multiple choice questions.

**Summary of Work:** This is a qualitative and quantitative experimental study included 25 fourth-year medical students in Pediatric, and Obstetrics and Gynecology Clerkship. They were assigned to construct 3 multiple choice questions on diagnosis, management and prevention after a 2-hour lesson regarding pediatric tuberculosis. The questions were graded from 0 to 4 for their key information, correctness, and application. The students' performance was evaluated before, after, two weeks, and one months after the class.

**Summary of Results:** Of 75 student-constructed questions, 19, 34 and 22 quizzes were classified as high quality, borderline and low quality respectively. The student were accordingly classified into 3 groups by their total quiz score. Median scores of the 4 tests were 10, 15, 10 and 5 with the interquartile range: 10, 10, 20, and 20. There was no overall difference among the three groups. However, considering each question type and each assessment point, the high quality group for patient management questions exhibited a higher performance on the one month test than the others. The in-depth individual interviews showed that many students especially in Obstetrics & Gynecology Clerkship did not take the tests as seriously as the formal exam. Some student had problems understanding in class, and most students thought that all the tests only covered tuberculosis, so their answers were more likely to be related to tuberculosis only.

**Discussion and Conclusions:** Students gained knowledge retention through constructing high quality three multiple choice questions about patient management.

**Take-home Messages:** This experiment tested our hypothesis that if a student is able to construct a correct and meaningful question after lecture, they will gain knowledge and good retention because constructing questions applies learning skills such as reading, audiovisual, demonstration, and imaginative practice, specifically on patient management, this may be because patient management needs understanding rather than memorizing like diagnosis and prevention.

## #7LL Posters - Assessment: Written and Standard Setting

7LL12 (625)

**Date of Presentation:** Tuesday, 27 August 2019

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**Location of Presentation:** Hall/Foyer F, Level o

### Inter-examiner variation between different professional groups

#### AUTHOR(S):

- Lauren Glen, University of Sheffield, UK (Presenter)

#### ABSTRACT

**Background:** At the University of Sheffield, second year medical students are assessed on six practical skills in the Initial Assessment of Clinical Skills in Simulation (IACSS). This involves the student simulating the clinical skills with the aid of a simulated patient (Patient as Educator) and anatomical models over a forty-eight-minute period. The clinical assessors are from a nursing or medical background, with a variety of experience in assessments. Previous research has focussed upon examiner backgrounds in terms of expert or non-expert rather than on the professional body. The aim of the study was to determine if there is a difference in failure rates of assessors from nursing backgrounds compared to assessors from medical backgrounds.

**Summary of Work:** Examiners were noted to be either from a nursing or a medical background and all mark sheets were collected retrospectively. The data was recorded into two spreadsheets: examiners from a nursing background and examiners from a medical background. For each skill, the percentage of students that failed was calculated. The failure rates of students assessed by examiners from a nursing background and examiners from a medical background were statistically analysed and compared to identify any significant differences at the level of  $p=0.05$ .

**Summary of Results:** Students assessed by examiners from a nursing background were more likely to fail in all skills. The analysis of failure rates between examiners from nursing and medical backgrounds demonstrated significant differences in two skill areas.

**Discussion and Conclusions:** The differences observed are likely to be multifactorial. These could include the examiner task familiarity, the examiner's assessment experience, the variation in assessment briefing, the variation in the use of the mark sheets and the lack of standardisation amongst the Patient as Educators. However, there is limited information available on these factors due to the retrospective collection of the data. From the data, it is possible to conclude that a review of the assessment is required to ensure students are competently and fairly assessed.

**Take-home Messages:** Examiners' professional background may cause inter-examiner variability and further exploration is required to ensure assessment reliability and validity.

## #7LL Posters - Assessment: Written and Standard Setting

7LL13 (1649)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Determining the best Modified Angoff variant to standard set a rating scale-based clinical examination

#### AUTHOR(S):

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#### ABSTRACT

**Background:** When the number of candidates is small, the borderline group/regression method is not suitable to standard set a clinical examination. Hence, a method such as the Modified Angoff, the most widely used method in medical assessment, has to be used. Although how this method is used for checklists is well researched and documented, how it should be used for rating scale-based clinical assessments is not. This study is to compare two variants of the Modified Angoff method when standard setting rating scale-based Objective Structured Clinical Examinations (OSCEs) on community health (CH) and mental health (MH) in postgraduate nursing.

**Summary of Work:** In the first variant, the judges were requested to estimate the probability of a borderline candidate achieving the 'barely passing' rating point on each rating scale of a given station. In the second variant, the same judges were requested to estimate the probability of a borderline candidate achieving every rating point (i.e. not only the barely passing rating point) on each rating scale. A simple average and a weighted average across all the judges and rating items were used to calculate the pass mark for the first and the second variants, respectively. Pass mark and the number of judges needed to set a reliable standard in each variant were compared for both exams. Number of judges was calculated considering a root mean square error [RMSE] of 1.5%, using generalizability theory.

**Summary of Results:** Standards set by the first and the second variants were 44% and 55% for CH and 51% and 52% for MH, respectively. Five and four judges were required to set a standard with an RMSE of 1.5% for the first and second variants, respectively, for both CH and MH.

**Discussion and Conclusions:** The first variant produced lower and less reliable standards than the second variant in both the OSCEs.

**Take-home Messages:** Due to its favourable reliability, the second variant of the Modified Angoff method is recommended to set standards for a rating scale-based OSCE, especially if the number of judges is a limiting factor.

## #7LL Posters - Assessment: Written and Standard Setting

7LL14 (1553)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Student understanding and anxieties surrounding standard setting in summative assessment

#### AUTHOR(S):

- Sharon Sneddon, University of Glasgow, UK (Presenter)

#### ABSTRACT

**Background:** Assessment in medical education is high stakes and it is important we can identify students who are above the required standard. Within the undergraduate medical school at the University of Glasgow, we use the criterion referenced Modified Angoff method to standard set our written assessments. Assessment staff are trained and experienced in the process, however it is apparent that students remain uncertain around standard setting and this uncertainty can lead to anxiety and stress.

**Summary of Work:** The aim of this study was to capture students' perspectives on the standard setting process at the Undergraduate Medical School at the University of Glasgow. This study was carried out using by qualitative thematic analysis of focus group data from a cohort of year 2 students.

**Summary of Results:** The focus group was recorded, transcribed and coded and three main themes emerged. Fairness was the most frequently mentioned theme. Students want to be assured that we are setting standards fairly. There was a perception of unfairness that the pass mark was not revealed to students. This unknown was said to cause stress and anxiety amongst students at a time when stress levels and anxiety were already high. Students had limited knowledge of standard setting procedures with the medical school and a varied understanding of how a pass mark is set, with the consensus that the pass mark was set using a norm-referenced method. Students however, were confident that the medical school set the correct standard.

**Discussion and Conclusions:** It is evident from this study that students seem under-informed in standard setting processes. Students indicated they would be interested in learning more about the process. Giving more information and increasing transparency may help students in their learning journey and help relieve anxiety. Students wish to be involved in their learning, so we should encourage this where possible. Results from this study will inform the medical school assessment policy.

**Take-home Messages:** There is a lack of understanding and knowledge surrounding standard setting in medical students. Provision of more information regarding the process may lead to alleviation of anxiety in the assessment process.

## #7LL Posters - Assessment: Written and Standard Setting

7LL15 (502)

**Date of Presentation:** Tuesday, 27 August 2019

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**Location of Presentation:** Hall/Foyer F, Level 0

### Standard setting workshop with frame of reference training using simulated clinical encounters for a General Surgery Residency Faculty

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Learning-Needs-Analysis (LNA) for general surgical residency faculty revealed gaps in knowledge and confidence in use of Workplace-Based-Assessments (WBA) to assess residents. WBA done by faculty revealed variability in scoring among the various members due to differing standards and expectations.

**Summary of Work:** We conducted a standard-setting-workshop on WBA for the faculty of a General Surgical Residency Program based on LNA. A lecture was delivered to share with the faculty how different modalities of assessment maps back to ACGME-I competencies and how these scores help form a global assessment for the resident. Pre and post lecture, the faculty were asked to assess 2 simulated residents based on video clips showing the residents in different clinical settings. There was discussion among the faculty to understand the factors considered and assumptions that were made during the assessment. This discussion helped them develop a frame of reference and increased their awareness of surgical preference versus principle which helped calibrate the scores across extremes.

**Summary of Results:** 30 faculty members participated in the workshop. All except one were actively involved in using the TBA tool to assess residents. Majority of the participants (63.3%) have not participated in any assessor standardization workshop previously. 18 (60%) hesitate to give poor scores. 24 (80%) found the workshop useful. 18 (60%) felt the workshop would change how they administer the TBA in the future. Inter-rater reliability assessed using Krippendorff alpha pre-lecture and post-lecture was 0.20 and 0.28 respectively. Analysis of the qualitative feedback from the training session revealed the following themes 1) Awareness and appreciation of the variability in assessment standards across faculty members 2) Faculty's innate discomfort to fail learners 3) Importance of 'SMART' feedback.

**Discussion and Conclusions:** Majority of the faculty have no exposure to standard setting workshops and they value interventions to educate and empower them in use of assessment tools. Workshops may be a tool for programs to educate their faculty on the variability in assessment standards across the members and improve reliability of these tools.

**Take-home Messages:** Standard setting workshops helps the faculty in using assessment tools more effectively in residency programs and to improve their reliability in assessing residents.



## #7LL Posters - Assessment: Written and Standard Setting

7LL16 (1950)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level o

### Modified Angoff vs Hofstee: a comparison of two standard setting methods

#### AUTHOR(S):

- Carol Ditchfield, University of Glasgow, UK (Presenter)
- Sharon Sneddon, University of Glasgow, UK

#### ABSTRACT

**Background:** A number of different methods can be used to determine passing standards in written examinations. At the University of Glasgow Medical School, our standard setting policy for the undergraduate MBChB course is to use a Modified Angoff method with the Hofstee method used when passing rates deviate from expected. This study set out to compare the effect of these two methods on student pass rates in year 1 and 2 of the course using historical data.

**Summary of Work:** This study looked at data from 5 first sittings of summative written exams (each exam was sat by approximately 240 students). Angoff panels (6-10 judges) met in advance of each exam and the average Angoff score was determined following a discussion. The Hofstee analysis was calculated using the Angoff score  $\pm 2$  SD for the maximum and minimum pass mark boundaries. The minimum student fail rate was 0% and the maximum was 20% of the cohort. The percentage of the cohort who would fail the exam using these parallel methods was compared.

**Summary of Results:** For both years 1 and 2, the Modified Angoff pass mark was higher than the Hofstee pass mark resulting in a marginally higher fail rate across the 5 years analysed. The largest discrepancy between the two methods was seen in the academic years with the highest fail rates.

**Discussion and Conclusions:** On average, using the Modified Angoff method results in a higher pass mark compared to using the Hofstee method. This is consistent with other studies which have shown that there can be differences in pass rates depending on the method chosen although, the direction of the differences seen in these other studies are not always the same and may reflect the type of exam or individual variations in method. The results from our analysis will inform our own future assessment policy development.

**Take-home Messages:** There is a small difference in the pass mark when Modified Angoff and Hofstee methods are compared but the difference is more pronounced in terms of a higher fail rate using Modified Angoff when the overall failure rate is high.

## #7LL Posters - Assessment: Written and Standard Setting

7LL17 (2899)

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### Comparison of Standards Set for Written Exams by a Panel of Standard Setters Within a Medical School

#### AUTHOR(S):

- **Natalie Cope, Keele University, UK (Presenter)**
- Kirsty Hartley, Keele University, UK
- Stuart McBain, Keele University, UK

#### ABSTRACT

**Background:** It is known that within the UK there are differences in the pass marks attributed to the same set of questions by different medical schools. One of the reasons for this is the use of a range of standard setting methodology. Modified Angoff, modified Ebel, and modified Cohen's methods are often used to set the standard between schools. Given the time taken to undertake some of these methods, comparison of the pass marks derived for each method for the same questions within a school is rarely available.

**Summary of Work:** We have compared the pass marks derived for written (knowledge) papers using 3 recognised standard setting approaches. We compared the pass marks derived for the same items, using the same panel of standard setters, within a single medical school. Modified Angoff, modified Ebel and a modified Cohen methodology were compared.

**Summary of Results:** Comparison of the pass mark set for written exams reveals that the pass mark differs as a function of the method used. In addition, the relative order of the pass marks derived by each method differs for each year of the course; with not consistency in stringency of the score derived.

**Discussion and Conclusions:** Whilst there are differences in pass marks for the same questions between medical schools, here we present evidence that standards also vary within a medical school depending on the method selected. The main methods used by different medical schools have been compared, and whilst differences exist, it is not possible say that a given method always gives the lowest or highest pass mark.

**Take-home Messages:** In addition to differences in standards set between medical schools for the same questions, there are also differences between the methods used within the same medical school using the same panel of standard setters. In the future it will be important to determine the validity of each of the methods in identifying students who may be at risk of not being competent for practice at the end of their primary medical degree.

## #7LL Posters - Assessment: Written and Standard Setting

7LL18 (1633)

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### Proposing an Internal Quality Control Method using Control Charts for an Examination Department of a Higher Educational Institute

#### AUTHOR(S):

- Suriyaarachchige Nishan Silva, Post Graduate Institute of Medicine, University of Colombo, Sri Lanka (Presenter)
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#### ABSTRACT

**Background:** Small or medium scale Higher education Institutes find it challenging to maintain the quality and consistency of examinations because it is practically not feasible to deploy the strict quality control methods of international standards. The 'difficulty level' of examinations therefore depend on the subjective qualitative determinants maintained by such smaller academic institutes, based on their own perceived standards, which can be highly variable.

**Summary of Work:** This project mainly intended to develop a quantitative examination quality control method that is unique to an institute, using its own data. A medium scale Allied Health school called the International Institute of Health Sciences in Sri Lanka was selected. A retrospective evaluation of the consistency of past exams was attempted using the statistical method control charts. Examination marks of past three years from students following the main courses, namely Advanced Diplomas in Physiotherapy (ADPhy) and General Nursing (ADGN) were used to develop control limits.

**Summary of Results:** The overall upper control limit (UCL) for the ADPhy was 84.87 and lower control limit (LCL) was 63.82 for the whole three years. The overall UCL for the ADGN was 82.41 and LCL was 45.82 for the whole three years. When these limits were considered the number of non conforming subjects were 5 for ADPhy and none for ADGN. When control limits were calculated for the 3 years separately, most nonconformities were seen in ADGN. Respectively 1,1 and 8 subjects were not conforming over the three years with the control limits. In contrast the ADPhy had only one subject not conforming with the control limits in the second year.

**Discussion and Conclusions:** The control charts developed using an institutes own historical data produces unique objective quality standards for an educational institute. The institute can thereafter use the control levels to validate whether each examination that comes is conforming with the determined standards.

**Take-home Messages:** Objective quality control for examinations is important even for smaller educational institutes. Control charts could be a very useful method for this purpose.

## #7LL Posters - Assessment: Written and Standard Setting

7LL19 (1728)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Examining the characteristics of smartpad-based testing on the basis of 3 years' experience in Korea

#### AUTHOR(S):

- Oh Young Kwon, Kyung Hee University School of Medicine, South Korea (Presenter)
- So Youn Park, Kyung Hee University School of Medicine, South Korea
- Tai Young Yoon, Kyung Hee University School of Medicine, South Korea

#### ABSTRACT

**Background:** Smartpad-based testing (SBT) has benefits of less time and cost than a paper-and-pencil test, also less restriction of space than computer-based testing (CBT). However, there may be disadvantages such as high initial investment or operational errors. We discuss the characteristics of SBT as an assessment method by analyzing medical students' survey.

**Summary of Work:** SBT has been performed with medical school students in Kyung Hee University for 3 years (from Feb 2016 to Jan 2019). The equipments used in the tests were 10-inch tablet pads with Android system. The tests consisted of multiple-choice questions and some essay questions including multimedia. Totally 250 medical students who have experienced the SBT were enrolled. The questionnaire was consisted of the effectiveness for knowledge assessment, convenience, completeness, objectivity, and preference of the SBT. It also included advantages, disadvantages, and applicability of SBT to Korean Medical Licensure Examination. The survey was measured on a 4-point scale: from 'strongly disagree' to 'strongly agree'.

**Summary of Results:** The students answered that SBT was objective (69.9%) and convenient (53.6%) knowledge assessment method, but positive answer to preference (35.7%) and completeness (41.4%) were less than 50%. Advantages were better recognition of texts or pictures (67.2%) and running on multimedia (52.4%). Disadvantages included impossibility of writing on the exam paper (64.4%), system error on drive (57.6%), difficulty in entering text (57.6%), and slow pad performance (26.0%). The students preferred CBT (44.4%) to SBT (28.2%) in Korean Medical Licensure Examination.

**Discussion and Conclusions:** SBT was considered as an objective and convenient assessment method. But insufficient completeness of exam questions and system error during test can be barrier to success. Continuous management of the equipment and the network are also necessary to stabilize the testing environment.

**Take-home Messages:** SBT can be an efficient assessment method in medical education as long as the completeness of exam and system stability are maintained.

## #7LL Posters - Assessment: Written and Standard Setting

**7LL20** (2967)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### The Relationship between an Academic Index and IFOM Scores in Panama

#### AUTHOR(S):

- **Raja Subhiyah, National Board of Medical Examiners, USA (Presenter)**
- Enrique Mendoza, University of Panama, Panama
- Héctor Lezcano, University of Panama, Panama
- Carol Morrison, National Board of Medical Examiners, USA

#### ABSTRACT

**Background:** Although a lot of research has investigated relationships between various test-based measures of medical knowledge, there are fewer studies correlating academic indices that are not test-based to scores on tests. This study examines the correlation between a relatively subjective faculty evaluation of medical students and performance on a standardized test of clinical science in the University of Panama. The medical education system in Panama includes several assessment stages as the candidate progresses from medical school. As medical students graduate, faculty assesses their abilities at case management and academic achievement. These assessments are averaged into an Academic Index that summarizes faculty's estimate of the student's academic proficiency. After graduation, medical students take a certification examination to earn practice privileges in Panama. The examination used for this purpose is the International Foundations of Medicine (IFOM) examination developed by NBME. This is a standardized examination that yields equated scale scores that are placed on a universal scale such that scores from various administrations are equivalent.

**Summary of Work:** A sample of 120 medical students who were subjectively evaluated by faculty and subsequently took the IFOM was used to estimate the relationship between the two disparate measures. A linear regression analysis showed that performance on IFOM can be predicted from the Academic Index obtained from faculty.

**Summary of Results:** A brief summary of the results follows: R Rsq F Sig. Regression .60 .36 67.3 .000. Academic Index explains around 36% of the variance in the IFOM scores, despite the fact that it is relatively a subjective measure. More detailed results will be included in the presentation.

**Discussion and Conclusions:** Although tests are more objective assessments of medical knowledge, faculty estimates may also be valuable in making these assessments.

**Take-home Messages:** Although tests are more objective assessments of medical knowledge, faculty estimates may also be valuable in making these assessments.



## #7LL Posters - Assessment: Written and Standard Setting

7LL21 (519)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Translating collective portfolios into an exhibition: Assessment of first year undergraduate health professions students

#### AUTHOR(S):

- Susanna Hanekom, North-West University South Africa, South Africa (Presenter)
- Chrisna Ravyse, North-West University South Africa, South Africa

#### ABSTRACT

**Background:** A collective portfolio is a compendium of evidence and reflections from students to display results of specific learning and deemed an effective method of assessing personal and professional development, while gaining competencies as a group or individually. It encourages teamwork and train future professionals in problem-solving and decision-making.

**Summary of Work:** Normal pen and paper examinations were replaced with portfolio evidence of individual and group assignments. Portfolios contained reflective portions where students related their experiences and core learning from this process. One topic covered was presented as an exhibition relaying a health message. Portfolios and exhibitions were assessed with an analytic rubric and students used peer-assessment methods to ensure fair distribution of marks for group activities.

**Summary of Results:** Reflective portions from portfolios and course feedback assessment forms were used to assess the success of this approach. Students reported more cohesive learning experiences and deeper understanding of the value of foundation knowledge obtained from this subject. Individual sections of the rubric score were analysed and it indicated that knowledge was easily obtained but early problem-solving and decision-making skills were challenged. Over time these skills developed and matured and students' scores improved. Exhibitions were evaluated by external professionals and academia. Their feedback was analysed and indicated that students were more equipped and displayed better problem-solving skills. Reports indicated that this type of approach should be continued throughout their studies.

**Discussion and Conclusions:** This process resulted in deeper understanding of content and related into real-life applications which most students found an essential skill that cannot be taught in ordinary classroom settings. Growth displayed in portfolios qualifies the process as much more valuable than conveying of information only. External examiners confirmed that growth displayed in execution of knowledge during the exhibition indicated that transferal of these skills are currently lacking for entry level students. While access to information has become easier, educators should focus on practicing skills such as problem-solving, decision making and application which is increasingly needed in work places.

**Take-home Messages:** Portfolio assessment is a valuable approach to develop skills and self-responsibility in students.

## #7LL Posters - Assessment: Written and Standard Setting

7LL22 (2228)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Proactive AKT exam revision course

#### AUTHOR(S):

- Suzanne Bates, GP Education Unit Southampton, New Forest and Jersey, UK (Presenter)
- Nicola O'Shaughnessy, GP Education Unit Southampton, New Forest and Jersey, UK

#### ABSTRACT

**Background:** In training for general practice, the Applied Knowledge Test (AKT) forms one of three components of the final assessment and award (MRCGP). It is a computer-based, summative, knowledge test. Until now there hasn't been explicit support in the training curriculum for trainees preparing to take the AKT. This is unlike the other examined element of the MRCGP, the Clinical Skills Assessment (CSA), which is well covered. The aim of this work was to incorporate proactive preparation and support for the AKT to address the trainees' learning needs.

**Summary of Work:** We designed a two-part AKT preparation course to run three times a year, coinciding with each sitting of the AKT. The first part of the course focused on the format of the AKT and discussion around revision techniques and resources. This took place during the booking period for the exam giving candidates the opportunity to book the subsequent exam sitting following our session. The second part, two weeks before the exam, consisted of the group using a game-based learning platform to work through example questions and a 'mock' examination with individualised, detailed feedback and suggestions about where to focus their revision.

**Summary of Results:** Feedback from trainees showed that they found the course timely and relevant. In particular it helped them to 'benchmark' their performance with that of their peers. Comments included: 'very inspiring', and 'absolutely eye opening'. Early findings suggest that the mock exam results correlate with trainees' marks in the actual exam, and we are continuing to collect data to be able to undertake a statistically-driven analysis of this.

**Discussion and Conclusions:** Teaching has not previously provided targeted support for the AKT exam, and trainees can struggle to develop a revision strategy. Feedback from trainees has shown that they value this additional input to help focus their revision, and opportunity to share ideas and resources.

**Take-home Messages:** Proactive support can help trainees prepare for the AKT exam.

## #7MM Posters - Simulation and Simulated Patients

### 7MM01 (3027)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Examining the Influence of Simulation Context on Learners' Post-Simulation Reflections: A Comparison Study using Think Alouds

#### AUTHOR(S):

- Abigail Konopasky, Uniformed Services University, USA (Presenter)
- Steven Durning, Uniformed Services University, USA
- Divya Ramani, Uniformed Services University, USA
- Megan Ohmer, Uniformed Services University, USA
- Anthony Artino, Uniformed Services University, USA
- Alexis Battista, Uniformed Services University, USA

#### ABSTRACT

**Background:** Research indicates that learners' experiences differ across simulation modalities and designs and there is a call for research to better understand learners' experiences in simulation to better inform instructional and curriculum design choices (Cook et al., 2011). This study uses "think-aloud" reflection (Ericsson & Simon 1998) to compare the impact of pre-recorded video cases and live scenario-based simulations on learners' reflections, asking: Does reflection as a learning tool differ across contexts? If so, how? What differences do think-aloud reflections reveal in learner experiences across contexts?

**Summary of Work:** Participants were 26 physicians in primary care or general surgery, assigned two cases in a video (VI) or live scenario (LS) condition, with identical case content and order. Participants were asked to "think aloud" while rewatching the pre-recorded simulation or watching their own performance (Ericsson & Simon 1998). Think-aloud transcriptions were coded for reconsiderations (practitioners questioning choices or thought processes) and (using linguistic software) for markers of self, cognitive processing, and affect (Tausczik & Pennebaker, 2010). LS and VI participants were then compared for differences in reconsideration and LIWC variables using t-tests or chi-square tests as appropriate.

**Summary of Results:** LS participants were significantly more likely to reconsider choices or thought processes ( $[1, N = 52] = 9.63, p < .01$ ) compared to VI participants. LS participants used significantly more ( $t = 3.5, p < .01$ ) self and ( $t = 2.5, p < .05$ ) cognitive processing markers, with no significant difference in affective markers ( $t = .7, p = .5$ ). Thus, LS participants spoke more from an "I" perspective about cognition (e.g., being "sure") and were similar to VI affectively.

**Discussion and Conclusions:** There were more and different kinds of reflections for LS participants, with a focus on the self's thoughts and choices, suggesting that differences in simulation context can influence learners' experiences and post-simulation reflection.

**Take-home Messages:** As one of the first inferential tests of varying simulation contexts, this study reveals important differences in how simulation context may influence learners reflection content. Moreover, this study suggests that think-aloud methodology can elicit a range of reflective experiences, so could augment guided reflection even without a faculty guide.

## #7MM Posters - Simulation and Simulated Patients

### 7MM02 (2013)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Using in-situ simulation (ISS) to identify latent safety threats (LST) on the Labour ward

#### AUTHOR(S):

- Ayesha Lodhia, St Mary's Hospital, UK (Presenter)
- Pippa Letchworth, St Marys Hospital, UK

#### ABSTRACT

**Background:** In-situ Simulation (ISS) is unique from off site simulation (OSS) in that it allows the team to problem-solve in their own clinical environment. Simulation focuses on non-technical skills that are vital for patient safety, however ISS has the added potential of making the clinical workplace safer by identifying and immediately rectifying latent safety threats (LST). The aim of this project was to evaluate the benefit of using ISS to identify LST during obstetric emergency simulation.

**Summary of Work:** Weekly high fidelity ISS was conducted on the labour ward of a central London teaching hospital using the "SimMom" simulator. Participants were made up of the multidisciplinary team (MDT) who work on the labour ward, obstetricians, midwives, midwifery support workers, anaesthetics, ODPs and students. The MDT simulation was pre-announced and consisted of 10 minute introduction and orientation, 15 minute simulation and 20-30 minute debrief. The debrief was lead by MDT educationalists all trained in debrief. LST were reported by the participants and recorded by the faculty. LST immediately rectifiable were addressed during the debrief otherwise they were highlighted to the clinical management.

**Summary of Results:** Over a 10 week period, 55 participants were recruited into 10 simulations. At least one LST was discovered during 7/10 (70%) of the sessions. LST were divided into categories with 4/7 (57%) related to orientation of emergency equipment, 1/7 (14%) due to lack of key-card access to clinical areas, 1/7(14%) due to stock not being replaced and 1/7 (14%) due to equipment placement. 85% of LST were immediately addressed

**Discussion and Conclusions:** ISS can be a valuable opportunity to uncover LST in the clinical working environment. The majority of these threats can be immediately rectified. High fidelity simulation has cost implications however the benefits of identifying latent errors could potentially still be garnered via low fidelity ISS.

**Take-home Messages:** ISS can be seen as part of the tools available to optimise patient safety in the clinical working environment through identifying and immediately resolving latent safety threats.

## #7MM Posters - Simulation and Simulated Patients

### 7MM03 (390)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Simulation based teaching helps to break the Rookie Wall of junior interventional radiologist

#### AUTHOR(S):

- Fan Lian, the first affiliated hospital of Sun Yat-sen University, China (Presenter)
- Yu Wang, the first affiliated hospital of Sun Yat-sen University, China
- Yingzi Huang, the first affiliated hospital of Sun Yat-sen University, China
- Shaoting Feng, the first affiliated hospital of Sun Yat-sen University, China
- Suqing Yang, the first affiliated hospital of Sun Yat-sen University, China
- Ming Kuang, the first affiliated hospital of Sun Yat-sen University, China

#### ABSTRACT

**Background:** We use “Rookie wall” to describe a phenomenon most junior interventional radiologists would encounter when they study seldinger technique in the first few months, which manifest as disruption to the rapid progress even more practice is engaged. This study aims to access the possible reasons of Rookie wall and evaluate how simulation based teaching method improved the students’ clinical skills.

**Summary of Work:** A voluntary, anonymous questionnaire regarding the reasons of Rookie wall was distributed to the trainees and tutors. Extra simulation based teaching was offered to some of the trainees while others were only instructed with videos, lectures and bedside practice. Clinical skill performances were compared between them after the course. Students were also asked to complete a Likert scale-based survey regarding perceptions of the teaching method.

**Summary of Results:** The reasons of Rookie wall from the trainees’ point of view included lack of confidence, lack of doctor-patient communication, and lack of personalized guidance. The reasons of Rookie wall from the tutors’ point of view were lack of practice and lack of introspection of the trainees. Simulation-based training was associated with improvements of clinical performance. The students trained with simulation highly rated their experiences. The challenge of simulation based teaching were mostly faculty time, faculty expertise and structured approach.

**Discussion and Conclusions:** The different perspectives of the trainees and tutors regarding the reasons of Rookie wall could be a barrier of effective learning. The tutors need to create an individualized learning environment for the trainees. Traditional teaching methodology was not able to do so due to variable factors such as optimization of the use of the operating room or patient safety. High-fidelity simulation is more effective for improvement of clinical competence, where ethical or legal conflicts are avoided, and frequency of practice could be adapted to the learning needs of each students.

**Take-home Messages:** Rookie wall is a commonly seen but usually overlooked phenomenon. Simulation based teaching is a better way for seldinger technique teaching than traditional methods. It allows training of clinical skills as well as behavioral skills, which is particularly important in China.



## #7MM Posters - Simulation and Simulated Patients

### 7MM04 (1654)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Simulation in Healthcare: Manifestations of Anxiety and Motivation in a Medical Student Group

#### AUTHOR(S):

- **Maria Jacqueline Silva Ribeiro, Ceuma University, Brazil (Presenter)**
- Joana Kátia Veras Rodrigues Sampaio Nunes, Ceuma University, Brazil
- Priscylla de Oliveira Miranda de Oliveira Miranda, Ceuma University, Brazil
- Ana Carolina Carneiro Carneiro, Ceuma University, Brazil

#### ABSTRACT

**Background:** Simulation is an active teaching methodology that allows participants to develop their skills at different levels (cognitive, attitudinal and emotional) in a safe and controlled environment through scenarios that replicate real-life situations. The psychological high fidelity of scenarios is capable of triggering in participants the same psychological reactions that occur in real consultations, such as stress and anxiety that may interfere with staff performance.

**Summary of Work:** The objective of this study was to describe signs of anxiety, positive feelings and motivation of medical students during simulation activities. This is a descriptive study carried out with students from the 9th, 10th and 11th periods of Medicine at the university CEUMA, SAo Luã-s/MA - Brazil. Data was collected by questionnaire adapted from the Methodological Guide for Simulation in Nursing of the Federal University of Santa Catarina. Data was organized and analyzed using Bioestat 3.5 and Excel 2013.

**Summary of Results:** In the study period, 127 medical students answered the questionnaire, of which 122 were analyzed. Sixty percent of the sample was female, mean age was 26 years and 95% reported no previous experience with simulations. Regarding the manifestations of anxiety during simulation activities, 60% of the students reported always feeling anxious, 51% reported tension, 31% tachycardia, 30% fear and shame. Regarding positive feelings, 51% reported determination, 38% patience, 27% courage and 23% self-confidence. When analyzing students' motivations, 44% of them were inspired to participate in activities, 98% thought simulation made it possible to put theory into practice, and 97% found the method is important for practicing doctor/patient relations.

**Discussion and Conclusions:** It was concluded that in spite of the frequent manifestations of anxiety and tension during activities, students felt determined and motivated to participate in them, considering them important for fixation of theoretical knowledge.

**Take-home Messages:** Simulation activities trigger anxiety and tension just as much as in real consultations, so it is important to create a psychologically safe environment for the students. Although anxious, students felt motivated and considered the method important to put theory into practice and for practicing doctor-patient relation.

## #7MM Posters - Simulation and Simulated Patients

### 7MM05 (3209)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### RapidSIM: Retaining educational value in compressed simulation

#### AUTHOR(S):

- **Andrew McGucken, NHS GG&C, UK (Presenter)**
- Jennifer Logan, NHS GG&C, UK
- Stuart Hitchison, NHS GG&C, UK

#### ABSTRACT

**Background:** The Queen Elizabeth University Hospital (QEUH), in Glasgow, has one of the most modern and well utilised simulation suites in Scotland. An innovative approach was required to provide 48 4th year undergraduates, undertaking a 10-week medical attachment, with a time effective, valuable simulation experience.

**Summary of Work:** We designed five simulation scenarios covering important clinical presentations commonly encountered by FY1 doctors. Simulations were designed to last 20 minutes (including 10 minutes for debrief). Simulation was medium fidelity using a Laerdal 'Simman' and basic monitoring. Students attended in groups of 2 or 3. GoSoapBox.com was used to anonymously survey student confidence pre- and post-simulation, in domains of A-E assessment, SBAR handover and assessment of specific presentations.

**Summary of Results:** Prior to the first simulation, 31% of students reported that they were at least 'moderately confident' in A-E assessment, this increased to 73% after simulation one and then to 80% following the final simulation. Before the first simulation, 25% of students felt 'not at all confident' in performing an SBAR handover; this fell to 8% following simulation one. Following simulation five, 100% of students felt at least 'somewhat confident' in this domain. Regarding a specific clinical scenario, 33% of students felt at least 'moderately confident' in assessing a patient with chest pain prior to simulation exposure; this rose to 100% following simulation.

**Discussion and Conclusions:** Our findings show an increase in student confidence in all domains surveyed following each individual simulation and over the course of five sessions. Increased confidence in technical skills was striking, with increased confidence in non-technical skills (such as SBAR) slightly more muted. Results may be limited by reduced post-simulation survey responses in comparison to pre-simulation. Survey responses, in general, decreased over time.

**Take-home Messages:** Compressed, medium fidelity simulation can be valuable in terms of increasing student confidence in technical and non-technical skills. This is relevant to educators in settings where time and resource are limited. Undergraduate students may lack confidence in using the well-recognised SBAR approach for handover. This should be an area of focus for educators.

## #7MM Posters - Simulation and Simulated Patients

### 7MM06 (1390)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning effects of tactile knowledge through palpation of diseased livers using a newly developed abdominal simulator

#### AUTHOR(S):

- **Kyoko Arai, School of Nursing, University of Shizuoka, Japan (Presenter)**
- Akemi Matsuura, School of Nursing, University of Shizuoka, Japan
- Minori Yamaguchi, School of Nursing, University of Shizuoka, Japan
- Tamerlan Babayev, School of Medicine, International University of Health and Welfare, Japan
- Kazunobu Ishikawa, School of Medicine, International University of Health and Welfare, Japan
- Takahiro Amano, School of Medicine, International University of Health and Welfare, Japan

#### ABSTRACT

**Background:** Traditional teaching of abdominal examination skills was performed by role-play or using simulated patients. However, students could not learn to appreciate the firmness, surface and shape of diseased organs until having the opportunity to palpate pathology in real patients. Therefore, we developed a novel abdominal examination simulator to address this gap. We subsequently performed a trial wherein we taught nursing students how to palpate diseased organs using our simulator and assessed whether they could acquire and maintain the tactile knowledge of diseased livers.

**Summary of Work:** We produced a torso of the abdominal wall and various organ inserts of the liver, spleen kidney, lymphoma in the inguinal area and myoma. The liver is able to simulate inspiratory and expiratory movements through the use of a respiratory motion control unit. The appropriate firmness of diseased organs was decided by seven professors of gastroenterology. Informed consent was acquired from 22 volunteer second-year nursing students who participated in the trial. We assessed students' ability to accurately identify liver pathology through tactile sensation alone and to what extent they retained their understanding at a two-month interval.

**Summary of Results:** Three novel abdominal simulators were prepared with settings of an enlarged normal liver, chronic hepatitis, and liver cirrhosis. First, students were taught to palpate the diseased livers. Students were then blindly challenged to palpate abdominal simulators with differing liver pathologies and record their findings on answer sheets, achieving a mean 78% accuracy. Two months later the same blind trial was repeated for this cohort, who then achieved a mean 66% accuracy. Fourteen students (63.6%) maintained or increased their score. Eight students (36.4%) did not improve. Ten students (45.5%) demonstrated full marks at the second trial.

**Discussion and Conclusions:** If we teach students to understand the firmness and shape of pathological livers using our abdominal examination simulator, students are able to develop and retain this tactile knowledge over time. In order to improve students' tactile knowledge of the diseased liver more effectively, repeated exposure is essential.

**Take-home Messages:** A novel physical simulator can effectively teach palpation skills and the tactile sensation of diseased organs.

## #7MM Posters - Simulation and Simulated Patients

### 7MM07 (2600)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Assess the trainees' ability after ACLS simulation training compared with the non-sim era

#### AUTHOR(S):

- Kalyanee Asanasak, MEC Songkhla Hospital, Thailand (Presenter)
- Sumalin Chumkot, MEC Songkhla Hospital, Thailand

#### ABSTRACT

**Background:** Simulation-based medical education with high fidelity has been proposed as the teaching method to improve participants skills and allow them to learn from error by linking to many educational theories such as constructivism, experiential learning, adult learning, social cognitive theory, human factor education, etc. But because of its high cost, need more technical expertise to monitor, operate and maintain the system. So to study the cost-effectiveness of the simulation lab is worth. This study aimed to relate the outcome of medical students and their improvements learning abilities after participate in ACLS simulation training.

**Summary of Work:** After 2 year of implementing ACLS simulation training for the 2 different classes of 6th-year medical students. Their learning outcome was measured by 1. The immediate satisfaction scores from the trainee and their ability to recognize the learning goal and objective. 2. 360-degree satisfactory evaluation about their performances. 3. Perform an exam 10 months later by OSCE and compare the scores with previous 5-year non-simulation training, by using pair t-test.

**Summary of Results:** the overall satisfaction from 360-degree evaluation was high. The students show much appreciate the exciting and hands-on experiences. But there are no significant difference in their learning ability detected by OSCE scores during the final exam at the end of the year.

**Discussion and Conclusions:** After introduced ACLS simulation training the immediate response from the medical students was terrific. They also feel being safe and gain more confidence to confront the realize situation. The response from peer, paramedic, and the team at the workplace are great. Thus that meet the adult learning theory but from this study, the scores from OSCE exam doesn't have any significant improvements both in the number of percentage of pass and failed and also the mean score. So to ensure the OSCE score, one might need more repeated practice.

**Take-home Messages:** ACLS simulation training is the examples that simulation training is better suited formative feedback and better served patient safety purposes.

## #7MM Posters - Simulation and Simulated Patients

### 7MMo8 (1129)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Implementing high-fidelity simulation in interprofessional education leads to a better outcome: A case study in a tertiary hospital in northern Taiwan

#### AUTHOR(S):

- **Feng-Cheng Liu, Division of Rheumatology, Tri-Service General Hospital, Taiwan (Presenter)**
- Po-Kai Chan, School of Medicine, National Defense Medical Center, Taiwan
- Tung-Wei Kao, Department of Family Medicine, Tri-Service General Hospital, Taiwan
- Yaw-Wen Chang, Department of Family Medicine, Tri-Service General Hospital, Taiwan
- Ying-Jung Lai, Department of Teaching Office, Tri-Service General Hospital, Taiwan
- Li-Chen Lin, Department of Nursing, Tri-Service General Hospital, Taiwan, Taiwan

#### ABSTRACT

**Background:** Simulation is an effective teaching method for interprofessional education (IPE). At the end of July 2018, we conducted a high-fidelity simulation IPE, including scenario-simulated film, role-playing with a pre-writing script, interprofessional table exercise, and recording the patient's feedback videos, in the Tri-Service General Hospital in Taipei, Taiwan. This study aims to analyze the case and compared the outcome with other session holds in 2018.

**Summary of Work:** The participants were required to complete the Interdisciplinary Education Perception Scale (IEPS) and a 5-question quiz before and after the class via the online interactive app Zuvio. The data was then programmed in SPSS 20 for demographics, pair t-test, and Wilcoxon sign rank test. Professions, levels of the profession, previous IPE experience, clinical working experience, and gender were stratified for the outcome. The results were then compared with other sessions in 2018. The significance of 5% ( $p < 0.05$ ) is adopted in this study.

**Summary of Results:** Totally 110 participants completed the real-time pre-post test. Based on the Kirkpatrick model, the level 1, 2a and 2b outcome of the July session showed the greatest average satisfaction (8.97/10), IEPS and quiz improvement rate (4.6% and 27.88%) compared with other months. After stratified with the demographics, the Nursing profession, males, previous IPE experience over 3 times and clinical working experience 2 to 4 years had better improvement.

**Discussion and Conclusions:** This case study shows the effectiveness of high-fidelity simulation IPE among the healthcare students. The quality response from the audience also affirms its value. Further implementation of high-fidelity simulation in IPE should be promoted to other teaching teams in TSGH to provide better IPE and patient care.

**Take-home Messages:** The high-fidelity simulation IPE in TSGH had a statistically significant positive impact on the audience compared with non-simulated courses based on our case study. More work should be focused on the promotion of implementation the simulation in IPE.



## #7MM Posters - Simulation and Simulated Patients

### 7MM09 (799)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### In situ simulation and its effects on patient outcomes: A systematic review

#### AUTHOR(S):

- Vsevolod S. Perelman, Faculty of Medicine, University of Toronto, Schwartz Reisman Emergency Centre, SimSinai Centre, Canada (Presenter)
- Daniel Goldshtein, SimSinai, Sinai Health System, Canada
- Cole Krensky, Faculty of Medicine, University of Toronto, Canada
- Sachin Doshi, Faculty of Medicine, University of Toronto, Canada

#### ABSTRACT

**Background:** Simulation-based education has been an increasingly applied teaching method with a growing body of supporting evidence. One such modality, in situ simulation-based training may be an important training modality to improve care delivery in high pressure situations. Previous reviews have shown that simulation-based education has positive effects on direct patient outcomes but have not demonstrated these findings with in situ simulation-based training. Other reviews acknowledged the need to further investigate in situ simulation as an educational modality to improve patient morbidity and mortality. We felt a more robust review of the up-to-date literature is warranted to identify the impact of in situ simulation training on direct patient outcomes.

**Summary of Work:** A combined search was conducted in PUBMED, OVID, WEB OF SCIENCE, CINAHL, SCOPUS, and EMBASE. 478 studies were screened with nine articles published between 2011 and 2017 meeting the inclusion criteria for analysis. Due to the potential variable study designs and methodologies (heterogeneity), a quantitative meta-analysis was not performed. Instead, a narrative synthesis analysis that evaluated effectiveness was conducted.

**Summary of Results:** This review selected eight prospective studies and one prospective-retrospective study. Three studies isolated in situ simulation as an experimental variable while the remaining studies implemented in situ programs as a component of larger quality improvement initiatives. Seven studies demonstrated a significant improvement in morbidity and/or mortality outcomes following integrated in situ simulation training.

**Discussion and Conclusions:** The present review discovered evidence in the literature that incorporation of in situ simulation training is statistically correlated with improved patient morbidity and mortality. However, supporting evidence remains limited by the number of studies and an array of confounding factors to grasp the true validity of the findings. To determine the true impact of in situ simulation either independently or as part of a larger training program, future research should make use of more isolating protocols with fewer confounding factors.

**Take-home Messages:** Existing literature, albeit limited, demonstrates that in situ training improves patient outcomes either in isolation or within a larger quality improvement program. However, existing evidence contains difficulties such as isolating the impact of in situ training from various potential confounding factors and potential for publication bias.

## #7MM Posters - Simulation and Simulated Patients

### 7MM10 (2848)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Simulation-based learning to improve skills and confidence in Pediatric Advanced Life Support (PALS) of final year medical students

#### AUTHOR(S):

- Pisprapa Noiming, Si Sa Ket Medical Education Center, Thailand (Presenter)

#### ABSTRACT

**Background:** PALS is the important knowledge and skills which requires continuous learning. Simulation training has been a novel way to deliver medical education. The aim of this study is to evaluate the role of simulation-based learning in development of skills, knowledge and confidence of PALS in medical students before graduation.

**Summary of Work:** Twenty-three final year medical students received 3 hours PALS workshop during pediatrics rotation. The students were divided into two groups. Thirteen students were assigned to review PALS guideline, practice and scenario from Computer-Based Learning (CBL group), whilst the remaining received PALS lecture with case discussion (Lecture group). Both groups spent two hours practicing scenario cases with high-fidelity simulators. Debriefing and self-skills assessment using OSCE checklists were done at the end of session. Multiple-choice testing was used to assess the knowledge along with using tools for confidence assessments during the last month before graduation.

**Summary of Results:** The CBL group had significantly higher OSCE checklist score than the lecture group (94% vs. 75%,  $p = 0.001$ ). MCQ scores were not significantly different, however the CBL group had higher average scores than the lecture group (77% vs. 72%,  $p = 0.359$ ). Before graduation, confidence assessment in the CBL group were higher the lecture group with statistical significance ( $p = 0.001$ ). We also found that both groups were satisfied in learning with simulation.

**Discussion and Conclusions:** Learning and practicing PALS using simulation-based learning made students more interested. Computer-based learning for preparation of PALS workshop was more useful than lecture class since students were able to self-review without pressure from the instructors. Following the practice and repetitive reviews will help students gain more confidence. Conclusion: Simulation-based learning plays a very important role in developing practical skills and confidence in PALS. Computer-based learning allows students to reviewed guideline and practice as well as building more confidence before graduation.

**Take-home Messages:** Regular self-learning and practicing with modern technology is a key to develop of professionalism.

## #7MM Posters - Simulation and Simulated Patients

### 7MM11 (447)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Stories of Success: Demonstrating Improved Performance in Junior Doctors after Simulation: A 12 Month Follow-up Study

#### AUTHOR(S):

- Nathan Oliver, NHS Lothian, UK (Presenter)
- Heather Stirling, NHS Lothian, UK

#### ABSTRACT

**Background:** Much of the credibility of immersive simulation rests on the assumption that simulation positively impacts clinical behaviour. Research has shown a positive relationship between simulation and the development of skills and confidence. Further research is required to demonstrate transfer of learning to the workplace, impact on patient outcomes and to demonstrate the longitudinal effects of behaviour change. In 2013, a simulation programme was set up for first year junior doctors, to respond to areas of the curriculum which they were finding hard to evidence. This programme consists of three sessions that run over the year, focusing on technical and non-technical elements of patient care. This study sought to look for what impact, if any, did the simulation programme have on the clinical performance and behaviour of first year junior doctors in NHS Lothian a year after they attended their first simulation teaching.

**Summary of Work:** This was a qualitative study utilising a narrative enquiry approach. Between 2013-2018, a questionnaire was sent to all junior doctors at completion of their first year of training. This asked them to describe two specific accounts of when they applied what they had learned during their simulation experience into their clinical setting. Questionnaires were coded and analysed using thematic analysis.

**Summary of Results:** 264 junior doctors completed questionnaires for a total of 528 narrative accounts for analysis. The narratives draw strong, contextualised links from what was learned in simulation to positive impacts on their performance. Five themes were identified: situational awareness, teamwork, communication, legal decision making, and the acute management of the unwell patient.

**Discussion and Conclusions:** The accounts in this study express a clear link between their experience in a simulation programme and their clinical performance, often months after the learning experience. Although the responses received in this study were subjective in nature, it is asserted that the large sample size and the 5 year span of data collection year add a level of validity in responding to the question at the centre of this enquiry.

**Take-home Messages:** Simulation has been seen to positively contribute directly to increased clinical performance, leading to the logical extension of impacting where it truly matters - safer patient care.

## #7MM Posters - Simulation and Simulated Patients

### 7MM12 (1391)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Scenario Simulation Improves Students' Autonomous Learning Abilities and Clinical Competence in Pathophysiology Course

#### AUTHOR(S):

- Hongmei Tan, Zhongshan School of Medicine, Sun Yat-sen University, China (Presenter)
- Kaibin Yang, Zhongshan School of Medicine, Sun Yat-sen University, China

#### ABSTRACT

**Background:** Spoon-feeding is a common problem for undergraduate medical education, especially in China. The methods students obtain knowledge are systematic but passive. Aiming at exploring superior teaching models to overcome those limitations and improve education quality, scenario simulation was introduced to case discussion in our pathophysiology course and a questionnaire was conducted among students to evaluate the efficiency of scenario simulation.

**Summary of Work:** 182 students major in clinical medicine in Zhongshan School of Medicine, Sun Yat-sen University participated in the case discussion. 73 of them were assigned to conduct a scenario simulation, while the remaining 107 were assigned with a presentation using PowerPoint. Subsequently, they were invited to fill in a questionnaire containing 13 questions. Question 1-11 investigated their evaluation of the case discussion from four perspectives. Question 12 and 13 collected their willingness to participate in similar activities in the future.

**Summary of Results:** A total of 177 of 182 students enrolled in the case discussion completed the questionnaire. 107 (60.5%) of them gave a presentation with PowerPoint, while the remaining 70 (39.5%) conducted a scenario simulation. The Cronbachs alpha value of question 1-11 in the questionnaire was 0.961, indicating that the internal consistency reliability of those questions was excellent. The overall evaluation in scenario simulation group was 96.87 versus 92.36 in presentation group ( $P < 0.001$ ). The scores of class quality, students' enthusiasm of learning, students' ability of autonomous learning and students' clinical competence in scenario simulation group were all significantly higher than these in presentation group. Interestingly, most students in scenario simulation group reported that they were willing to participated in scenario simulation activities, and more than half students in presentation group preferred scenario simulation to PowerPoint presentation in the future. Notably, students in the scenario simulation group were significantly more interested in future scenario simulation activities than those in the presentation group.

**Discussion and Conclusions:** Scenario simulation is more efficient in stimulating students' enthusiasm towards learning, and provides a novel option to facilitate the students autonomous learning and improve medical education quality for undergraduates if adopted appropriately.

**Take-home Messages:** Scenario simulation improves education quality in pathophysiology course.

## #7MM Posters - Simulation and Simulated Patients

### 7MM13 (2628)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Mental Health Simulation for Paediatric Junior Doctors

#### AUTHOR(S):

- Olatokunbo Sanwo, East Kent Hospitals NHS Trust, UK (Presenter)
- Magali Dubus, East Kent Hospitals NHS Trust, UK

#### ABSTRACT

**Background:** In the 2017 Mental Health of Children and Young People in England Report, 15.4% of children presented to physical health specialists such as paediatricians regarding their mental health. An Australian survey found that over a 7-year period, childhood mental health presentations to Emergency Departments increased three times faster than physical health presentations, (Hisock et al, 2018). Paediatric junior doctors receive little formal training on the assessment or management of common mental health presentations. Despite advances in the use of simulation in medical education, simulation is used less in mental health (Attoe et al, 2016). Mental health simulation projects such as SWAMPI-CYP (Simulation Workshop at the Mental and Physical Interface in Children and Young People) have been introduced regionally, however local provision is sporadic.

**Summary of Work:** Scenarios based on teenagers with self-harm and eating disorders were developed. These scenarios were incorporated into the weekly paediatric in-situ simulation programme trust wide. Simulations were delivered by clinical teaching fellows and the simulation team, with subsequent debriefs. Participants and observers completed questionnaires assessing their confidence at managing children with acute mental health presentations before and after the simulation.

**Summary of Results:** Compared to beforehand, participants described increased confidence in history taking (28.6% vs 70%) and perceived ability to manage patients with mental health presentations (28.6% vs 42.9%) following the simulation. Qualitative feedback indicated a prior lack of knowledge of HEADSS assessment, and the recognised need to consider a psychosocial assessment in the context of mental health presentations.

**Discussion and Conclusions:** As the mental health needs of children and adolescents continue to rise, it is imperative to ensure that the medical staff assessing them have the required knowledge and confidence to do so. By developing programmes such as this, it is hoped that paediatricians will cultivate the necessary skills to appropriately assess and manage patients presenting with acute mental health concerns.

**Take-home Messages:** - Paediatricians are increasingly required to manage children with acute mental health presentations with minimal training. - Simulation based medical education may help paediatric junior doctors feel more confident in the assessment and management of these children - It is hoped this increased confidence will result in improved care of children with mental health presentations.



## #7MM Posters - Simulation and Simulated Patients

### 7MM14 (856)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Freedom from toxic impact from cytotoxic drugs by using VR simulation during chemotherapeutic drug preparation

#### AUTHOR(S):

- Mei-Fang Chou, Tri-Service General Hospital, Taiwan (Presenter)
- Ya-Ting Liu, Tri-Service General Hospital, Taiwan
- Cheng-Chih Hsieh, Department of Pharmaceutical Management of Ministry of National Defense-Medical Affairs Bureau, Taiwan
- Tai-Lung Cha, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** Chemotherapy drugs are defined as one of the majority of hazardous drugs by the National Institute for Occupational Safety and Health. Proper training programs should be implemented to assure safe of working staffs during their hazardous medication preparation, apart from the guarantee of the accuracy of final products. According to the theory of Andragogy, we utilized the novel virtual reality (VR) technology to create a student-oriented learning system for students to learn how to handle cytotoxic drugs during chemotherapeutic drug preparation.

**Summary of Work:** A 3D virtual environment which is highly similar to real clinical conditions was established by the VR technology. The learning processes were set up based on the clinical requests, conditions and the standard of procedures (SOP) of dispensing chemotherapies. In order to track the action of the student's hands and examine the amount of drugs which the student draws from the virtual vials/ampoules, a real syringe equipped with a sensing chip was developed and integrated into the VR system. 34 students of pharmacy school were enrolled to experience the VR learning system, and their learning achievements were evaluated based on the Kirkpatrick model.

**Summary of Results:** In summary, students averagely spent 15~20 minutes practicing the dispensing processes of a designed clinical query. According to the result of directly observed practical skills (DOPS), the concept and preparation skills of students were significantly improved after VR learning. Compared to that taught by senior qualified pharmacists, the VR learning system provided similar results of learning achievements. Moreover, the percentage of students who were fearful of chemotherapy was significantly decreased from 23% to zero. About 96.8% of students were satisfied with the VR learning system.

**Discussion and Conclusions:** For handling chemotherapy drugs, the VR learning model not only ensured safety for students during learning but also provided gamified learning program to stimulate the motivation of students. Our results concluded that the VR model provides learning content consistently and supports transferring knowledge effectively.

**Take-home Messages:** For handling cytotoxic medicine, VR technology not only invents an excellent model for a real experience but also improves the spirit and motivation of learning.

## #7MM Posters - Simulation and Simulated Patients

### 7MM15 (1978)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Using a High Fidelity Simulator to improve diagnosis and management of spontaneous tension pneumothorax by 6th-year medical students of a University-Affiliated Medical School, Thailand

#### AUTHOR(S):

- Woraphot Lueangchiranothai, Lampang Hospital, Thailand (Presenter)
- Ravin Sony, Lampang Hospital, Thailand

#### ABSTRACT

**Background:** Spontaneous tension pneumothorax (STP) is a life-threatening condition which requires prompt diagnosis and emergency management. Essential skills needed for diagnosing and treating STP include needle thoracocentesis (NT), needle decompression (ND), and intercostal chest drainage (ICD). However, medical students are currently unable to practice adequately as cases are opportunistic. In 2018, Lampang Medical Education Center launched the use of a high fidelity simulator (HFS) for students to practice NT, ND, and ICD.

**Summary of Work:** Twenty-one 6th-year medical students were given a scenario of an HFS patient with acute dyspnea, involving exacerbation of COPD with STP. A pulmonologist and a nurse were available to facilitate the session. Each student was asked to perform a physical examination and decide on proper management. A standard checklist was applied to evaluate the students' performances for each procedure. At the end of the session, the instructor summarized the case and showed the procedure of choice for each situation and how to perform it, followed by group discussion.

**Summary of Results:** Of 21 students, 9 (42.8%) failed to perform NT and thus couldn't detect STP in the HFS. Among the other 12 who could diagnose STP, 5 managed to perform ND. All 12 students managed to perform ICD. However, none of the students performed ND or ICD in a high-quality manner. Students' reflections about the reasons for lacking these skills were: 1) no experience in caring for patients with STP in practice; and 2) no practical session to perform these procedures.

**Discussion and Conclusions:** Results demonstrated that management of STP remains a missing skill in medical students. More than 40% of students missed the diagnosis of STP, while poor procedural skills in performing both ND and ICD were noticed among those who could detect STP. This gap highlights the benefits of using HFS to assess and acquire the essential skills required in diagnosing and managing STP. This information encourages the use of HFS to assist teaching the management of patients with STP in the future.

**Take-home Messages:** HFS is a useful tool to assess and improve medical students' practical skills in the management of STP.

## #7MM Posters - Simulation and Simulated Patients

### 7MM16 (835)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Experience of Simulated Patient Program in International Medical University: Lecturers', Students' and Patients' View

#### AUTHOR(S):

- Goh Lay Khim, International Medical University (IMU), Malaysia (Presenter)
- Yee Bit Lian, Open University Malaysia, Malaysia

#### ABSTRACT

**Background:** Simulated Patient (SP) is defined as a layperson that simulates to portray the role of a patient with health-related conditions. International Medical University (IMU) has been utilizing SP for more than 10 years for teaching sessions and simulation activities as well as Objective Structured Clinical Examination (OSCE). Due to a series of complex interaction within the SP program yet to be explored, the aim of the study was to explore the experience of lecturer, student and SPs towards the SP program in IMU.

**Summary of Work:** Total of 17 participants recruited for 6 interviews, including both focused group and one-to-one interview session with the inclusion criteria. The interviewer used a list of guide question to explore both the positive and negative experiences. Manual transcribing and coding technique was used for data analysis, while Qualitative Data Analysis (QDA) was used for data management and additional analysis.

**Summary of Results:** There were three themes have been emerged for each group of participants. The themes for the lecturer group were SP resemble a real patient, The making of scenario, and SP feedback; while the themes have emerged from the students group were Simulated patient as an effective learning tool, Fairness, and Feedback from simulated patient; whereas Effective learning session, Motivation and Preparation prior class were the themes were emerged from the SP group.

**Discussion and Conclusions:** Lecturers valued the SPs' contribution if only the SP is able to resemble a real patient and able to demonstrate effective feedback skills. Similarly, student perceived that SP as an effective learning tool if only the SP able to portray as a real patient and able to provided effective SP feedback. Moreover, standardization of the SP role portrayal and SP feedback influenced the fairness along the students' journey. While, SPs expressed that lecturers, SPs and students influenced a successful SP-based simulation session.

**Take-home Messages:** Training is the key to this study. Training of role portrayal using the four-stage model which is helpful in improving the realistic portraying of the role and standardized SP performance, followed by training SP in giving constructive feedback.

## #7MM Posters - Simulation and Simulated Patients

### 7MM17 (339)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Residents delivering bad news in Anaesthesiology - Exploring the experience, efficacy and cost-effectiveness of the use Standardised Patients and Peer Role Play

#### AUTHOR(S):

- Ambika Paramasivan, National University Hospital, Singapore (Presenter)

#### ABSTRACT

**Background:** Delivering bad news is a difficult task for the anaesthetist and one that is important to address in residency.

**Summary of Work:** Residents went through didactic teaching on communication skills and later were assigned to receive communication training either with standardised patients (SP) or peer role play (RP). Anonymised pre- and post-questionnaires were filled by the residents detailing their experience. An independent assessor blinded to the study hypothesis rated the residents' performance using a standardised plus-delta assessment form as a measure of effectiveness of either methods. In our study additionally, corresponding costs were assessed as man-hours resulting from the hours of work of SP, RP and tutors in order to generate the incremental cost-effectiveness ratio (ICER) for the use of SP against the use of RP.

**Summary of Results:** There was improvement in the self-reported knowledge and comfort level in communicating bad news after the sessions. The intervention was highly rated, especially the encounters with standardised patients, observations of others and the debriefing process. The mean performance scores were 63.3% (RP group) and 74.3% (SP group) attributing advantage to the SP group. Costs however were slightly greater in the SP group (18 man-hours) versus (12 man-hours) in the RP group. This resulted in an incremental cost-effectiveness ratio of 0.54.

**Discussion and Conclusions:** Medical education using multiple standardised patient scenarios is a successful model for increasing an anaesthetic resident's self-reported comfort, knowledge as well as performance in responding to difficult clinical communication tasks. However, the slight advantage conferred by the use of peer role play in terms of cost-effectiveness should be taken into consideration in future planning.

**Take-home Messages:** The successful experience and use of standardised patients should be balanced against the marginally better cost-effectiveness of peer role play in planning residency teaching sessions for delivery of bad news.

## #7MM Posters - Simulation and Simulated Patients

### 7MM18 (2834)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Needs assessment for Training Nursing students to be Standardized Patients: Perspectives of Standardized Patients

#### AUTHOR(S):

- Su-Fen Cheng, National Taipei University of Nursing and Health Sciences, Taiwan (Presenter)
- Hao-Yu Chen, Center for Education in Medical Simulation, Taipei Medical University, Taiwan
- Wen-Hsi Chiu, Mackay Junior College of Medicine, Nursing and Management, Taiwan
- Mei-Chun Chen, National Tainan Junior College of Nursing, Taiwan
- Min-Shu Wang, Mackay Memorial Hospital, Taiwan
- Chu-Yu Huang, Cedarville University, USA

#### ABSTRACT

**Background:** Objective Structure Clinical Examination (OSCE) has been used in nursing education to evaluate nursing students' competencies of practice prior to graduation. Due to limited budget and resources, nursing faculty tend to use nursing students as standardized patients (SP) in OSCE. Most nursing faculty received training on how to design OSCE, however, they lack experiences in training SP. It is crucial to understand the experiences of the SPs in order to develop an effective training materials. Thus, the purpose of this study was to conduct a needs assessment from the perspectives of trained SPs for developing materials to train nursing students to serve as SPs.

**Summary of Work:** This descriptive qualitative research study used semi-structured in-depth interviews for data collection. A total of 19 SPs participated in the interviews. The SPs were asked to share their experiences as a SP, the challenges encountered as a SP, and the training needs for nursing students. An interview guide was used for the interview process. The Collazzi's method of data analysis was used to extract themes and sub-themes.

**Summary of Results:** Four major themes were extracted from the interviews, including recognition of the contribution to health-related professional education, core contents for SP training, limitations of current SP training programs, needs to develop digitally based training materials, and establishment of a SP training student organization across various universities/colleges.

**Discussion and Conclusions:** The findings of this study provide an insight into development of SP training materials or modules for nursing programs. Digitally based training materials and establishment of a SP training student organization across various universities/colleges are strongly recommended since it allows for resources sharing across institutions, and may benefit universities/colleges with limited budgets and resources. Future studies are suggested to focus on development of a checklist to critically evaluate effectiveness of SP training materials.

**Take-home Messages:** The audiences will be able to understand how to design a SP training course for nursing students.



## #7MM Posters - Simulation and Simulated Patients

### 7MM19 (571)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Can simulated patients evaluate the students' performance in procedural skills in OSCE?

#### AUTHOR(S):

- Predrag Bjelogrić, University of St Andrews, School of Medicine, UK (Presenter)
- Anita Laidlaw, University of St Andrews, School of Medicine, UK

#### ABSTRACT

**Background:** The main and important role of simulated patients (SP) in OSCEs is to play/act as a patients. In addition, in an OSCE the SP can also assess students' performance. Research suggests that SPs can assess the performance of the examinee more reliably during well-defined technical skills such as history taking and clinical examination rather than on social skills such as empathy and teamwork<sup>1</sup>. We recently piloted SP assessment in a procedural skill (blood pressure measurement) in a formative OSCE amongst first year medical students. The aim of this study was to determine whether SP assessment would impact upon the cut point for an OSCE station, and whether SP and clinical assessor marks were closely associated.

**Summary of Work:** 160 first year medical students participated in a four station formative OSCE in December 2018. In the blood pressure measuring station the simulated patients were asked to respond to two questions on a 5-point Likert scale (strongly agree - strongly disagree): This student made me feel confident and I am satisfied with this overall encounter. The questions combined were weighted as 10% of the overall mark for this station, with the other 90% of marks allocated by faculty clinical assessor. Station cut points with and without the SP scores were calculated using borderline regression and SP and clinical assessor scores were analysed by Pearson correlation (double tailed).

**Summary of Results:** Inclusion of SP scores made no significant change to the overall cut point score for the station. There were significant positive correlations between the clinical assessors scores and the scores for the two SP questions for the station, (confidence  $R=.289$ ,  $n=160$ ,  $P<0.001$ , satisfied  $R=.254$ ,  $n=160$ ,  $P=0.001$ ). There was also a significant positive correlation of SP marks with total OSCE score (confidence  $R=.222$ ,  $n=160$ ,  $P=0.005$ , satisfied  $R=.304$ ,  $n=160$ ,  $P<0.001$ ).

**Discussion and Conclusions:** In this small pilot study, we confirmed that SPs can contribute to assessor marks in this procedural skill. It is planned to assess the introduction of SP scoring in clinical as well as procedural skills stations.

**Take-home Messages:** We encourage clinical centres to routinely include SP as a markers of the student performances in addition to professional faculty assessors.

## #7MM Posters - Simulation and Simulated Patients

### 7MM20 (1294)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Applying standardized patients in hybrid simulation in team training: 11 years of experience

#### AUTHOR(S):

- **Min Shu Wang, Mackay Memorial Hospital, Taiwan (Presenter)**
- Ching-Chung Lin, Mackay Memorial Hospital, Taiwan
- Ming Zhong Lee, National Taipei University of Nursing and Health Science, Taiwan
- Yih-Jer Wu, Mackay Medical College, Taiwan
- I Yeh Hung, Mackay Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** We have been using high-Fidelity Simulation and standardized patients in hybrid simulation in Team training for 11 years. Learner-centered learning objectives and cross-disciplinary team training have become a routine exercises in teaching hospitals. For SP in clinical situation drills, our medical education is based on patient safety and learner-centered simulation. We also focus on multiple learning goals institution and practice results sharing.

**Summary of Work:** In order to increase the new staff's and cross-disciplinary team clinical's resilience ability, we provide TRM workshop of teachers, application of high-fidelity Simulation with standardized patients for Routine training in various categories. The training objects include UGY, PGY Physicians, psychiatric patients with high-risk disease training and training for the situation of infant sudden death.

**Summary of Results:** With the total amount of 10,906 trainee were trained during the period of 2008 to 2018. PGY doctors and the respiratory therapists training were the top two most to use our training. The Department of Emergency and Internal Medicine SBE combined with resident physicians has been routinely trained. The teaching plans include acute and severe simulation teaching, anesthesia simulation training, team training, drug allergy, arrhythmia, and death before the hospital. These training increase staff's both confidence and satisfaction up to 80%-100% and to avoid medical mistakes.

**Discussion and Conclusions:** Applying both High-fidelity Simulation and situational-training SP may inspire clinical medical workers interest, message delivery, and feedback-providing skills, and discover the unit's deficiency for further improvement, in order to improve the medical quality and reduce errors. From the training results, actively request course and new situational lesson plans, had made us become a learner-centered services. Conclusions: Promoting SP with immersive situational learning, Cross-disciplinary education increases learning interest, not only reduces the anxiety of new staffs but also improves communication skills of students. This training helps the immersive learning of all categories and advances the integrity of the lesson plans. The students think it's more lively and interesting than traditional learning.

## #7MM Posters - Simulation and Simulated Patients

### 7MM21 (1124)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Presentation:** Hall/Foyer F, Level 0

### Establishing the Principles of De-roling in Simulated Patient practice: a focus group study

#### AUTHOR(S):

- Gabriel Tan, Lee Kong Chian School of Medicine, Singapore (Presenter)
- Diana Andrea Barron, Lee Kong Chian School of Medicine, Singapore
- Tanya Tierney, Lee Kong Chian School of Medicine, Singapore

#### ABSTRACT

**Background:** Simulated patients (SPs) are people who role-play in simulated clinical encounters. Realistic portrayal of patient's experiences requires physical and emotional vulnerability. SPs describe experiencing fatigue, pain, or even adopting emotions and behaviours from the character portrayed. De-roling, i.e. denying the character and returning to self-identity and reality, has been advocated as part of formal SP methodology to protect SPs' well-being.

**Summary of Work:** Our study aims to derive themes surrounding: (i) de-roling strategies used by SPs who volunteer at the Lee Kong Chian School of Medicine (LKCMedicine), (ii) what SPs believe about de-roling and its purpose, and (iii) what factors help and hinder SPs' de-roling. Our five focus groups comprised 23 SPs in LKCMedicine's SP programme. We included SPs with (a) 6 or (b) 1 year of SP practice, or (c) previously played mental health roles, or (d) whose responses in a previously-conducted SPs' well-being survey concern de-roling. Thematic analysis using an inductive-realist approach was conducted on the transcripts of the five focus groups.

**Summary of Results:** Four inter-related themes were developed to answer the research question: (i) "De-roling and Well-being", how role-play causes adverse psychological effects that de-roling can help prevent, (ii) "Practices of De-roling", how SPs' de-roling practices follow patterns; (iii) "Relationships" and (iv) "Self-versus-Role", how external factors, attributes of self and the character portrayed affect one's ability to de-role.

**Discussion and Conclusions:** Our study defends the notion that de-roling protects SPs' well-being, and supports literature demonstrating positive effects of therapeutic interviewer interaction and negative effects of the examination setting on SPs' de-roling. We also demonstrated new insights about the importance of building an "SP family" in de-roling and the broad interrelatedness between external factors, self-versus-role factors and the SP's choice of de-roling strategy.

**Take-home Messages:** Firstly, future SP training should emphasise de-roling methodology and the many strategies SPs can use. Second, schools are encouraged to build a cohesive "SP family" as it facilitates conversation, sharing and reflection between SPs, helping them de-role. Thirdly, SPs should consider de-roling strategies throughout role-play to ensure that they successfully de-role afterwards

## #7NN Meet the Experts – MedEdPublish Editorial Team

**Date of Session** Tuesday, 27 August 2019

**Time of Session:** 1015-1200

**Location of Session:** Suite E, Level 0

### Editorial Team:

- Richard Hays, MedEdPublish Editor
- Trevor Gibbs, MedEdPublish Associate Editor
- Ken Masters, MedEdPublish Associate Editor
- Kerrie McKay, MedEdPublish Administrator
- Claire Macrae, AMEE Education Officer
- Joanne Greer, MedEdPublish Technical Support

### Summary:

MedEdPublish is AMEE's open-access, post publication peer-reviewed journal [www.mededpublish.org](http://www.mededpublish.org). Papers on medical and health professions education are published after a light-touch review to ensure they meet appropriate standards. All papers receive a DOI. After publication papers are reviewed and given a star rating both by the MedEdPublish panel of reviewers and the education community.

Richard Hays, Editor of MedEdPublish, and other members of the Editorial Team would be pleased to meet you to answer any questions as to how you can get involved, both by publishing in MedEdPublish and by reviewing published papers.

## #8A Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1530

**Location of Presentation:** Hall A, Level 2

### Universal Health Education Coverage - Health and Education for the Global Community

**Presenters:**

- Nick Bass, East London NHS Foundation Trust, London, UK
- Jibril Handuleh, Amoud University, Borama, Somaliland
- Ming-Jung Ho, Georgetown University, Washington DC, USA
- Ruti Stashefsky-Margalit, Technion, Haifa, Israel
- Manuel Mendes Costa, University of Minho, Braga, Portugal

**Summary of theme and why it is important:** Much of medical education is conducted, published, presented at conferences and shared among wealthy countries with a marked publication bias towards a handful of countries and resources and innovations largely confined to high and middle-income countries.

The greatest health needs are concentrated in low income countries but beyond a handful of delegates these countries are largely left out of conferences and publications rarely cover their educational needs or activity.

There is a wealth of educational activity, innovation and resourcefulness occurring in such settings, often out of sheer necessity, which remains invisible to many other resource poor countries and also richer ones. However, those of us who work with partners in such countries are aware of such learning and innovation which is beginning to spread across so-called South-South networks and also starting to be adopted and adapted in richer countries (so-called Reverse Innovation). Such learning is harder to access but can be invaluable and more appropriate in many parts of the world and can be just as valid as that developed in higher resource countries.

We would hope that anyone who values medical education would wish to learn from anyone who is advancing this regardless of the difficulties of access and communication. There is a large body of essential learning which is overlooked and which can be invaluable to all of us.

**Who should participate in the symposium?** Anyone with a wide interest in medical education and a willingness to value good work regardless of where it takes place

**What will they gain from participating?**

- A better understanding of why education is vital to the health and wellbeing of all.
- A better understanding of some of the examples of reverse innovation developed in resource-poor settings but of wider benefit to others.
- An appreciation of the need to make medical education – as an essential underpinning of health – an aspiration in terms of Universal Coverage every bit as much as direct health delivery



## #8B Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1530

**Location of Presentation:** Hall C, Level 2

### Cost and value in medical education

#### Presenters:

- Martin G. Tolsgaard, University of Copenhagen, Denmark
- David A. Cook, Mayo Clinic, USA
- Steven Maloney, Monash University, Australia
- Jennifer Cleland, University of Aberdeen, UK

**Summary of theme and why it is important:** The global cost of medical education surmounts to more than 80 billion Euros annually. However, despite the massive cost of medical education, little is known about how to optimize the return on investment. In other words, how can we ensure that medical education delivers maximum educational value for any given spend?

Building on the concepts examined in a recent AMEE Guide, the presenters will review opportunities and limitations regarding the study of cost and value in health professions education.

The challenge of context in the study of cost will be specifically considered, along with the potential role of theory and conceptual frameworks as bridges enabling research findings to generalize across contexts. They will also describe several cost evaluation designs, and explore practical issues regarding the conduct, interpretation, and application of these evaluations and their results.

Finally, the presenters will engage the audience in identifying how to improve the future study of cost and value in medical education, and how such research can be used for the benefit of all health professions educators.

**Who should participate in the symposium?** Everyone with an interest in the design, delivery and evaluation of health professions education will benefit from engaging in this discussion, including education leaders, teachers, administrators, researchers, and students. Essentially everyone with a stake in training health professionals should participate, and thereby learn more about key concepts and controversies in the measurement and application of cost and value in education.

**What will they gain from participating?** Participants in this symposium will benefit by learning about the conduct and interpretation of research in the study of cost and value in medical education. In particular, they will gain insights into the limitations and practical challenges of cost research, and gain a basic understanding of how to conceptualize cost and value in medical education.

## #8C Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1530

**Location of Presentation:** Hall N Level 2

### The Scope of Faculty Development: How Conceptual Frameworks Can Inform Educational Practices and Program Evaluation

**Organised by the AMEE Faculty Development Committee:**

- Ivan Silver (moderator), University of Toronto, Canada
- Clare Morris, Queen Mary University, London, UK
- Karen Leslie, University of Toronto, Canada
- Olanrewaju Sorinola, University of Warwick, UK
- Diana Dolmans, Maastricht University, The Netherlands

**Summary of theme and why it is important:** Faculty development activities have moved beyond their historical origins in higher education, where the focus was on helping individuals develop their teaching practices. Faculty developers now work with individuals, teams and organisations. They generally support the development of teaching and educational practices, with an increasing emphasis on building educational leadership and research capacity. Furthermore, they have moved their work beyond the walls of the academy, from workshop to the workplace.

We would argue that alongside these visible changes, there has been a parallel broadening of the conceptual frameworks that inform faculty development programmes and activities. These frameworks help to guide faculty development practices and frame programme evaluation. This symposium aims to shine a light on some of these conceptual frameworks, making them visible through international faculty development case studies. We will also provide participants with opportunities to consider how these frameworks might be used in their faculty development work.

**Who should participate in the symposium?** The symposium is relevant for teachers, educators, leaders, managers, researchers, and scholars interested in faculty development or continuing professional development.

**What will they gain from participating?** Participants will gain an opportunity to: think about the scope of faculty development, get new insights into diverse approaches to faculty development activities, consider some of the conceptual frameworks that can inform our work as faculty developers, educators, scholars and researchers, and discuss how these approaches can be applied in practice.



## #8D Short Communications - Teaching and Learning - Games

### 8D1 (1273)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L3, Level 1

### The X-games. Improving students' motivation and learning in radiology education by serious gaming

#### AUTHOR(S):

- Marieke van der Schaaf, University Medical Center Utrecht, The Netherlands (Presenter)
- Anouk van der Gijp, University Medical Center Utrecht, The Netherlands
- Josephine Huige, University Medical Center Utrecht, The Netherlands
- Cecile Ravesloot, University Medical Center Utrecht, The Netherlands
- Christian Mol, University Medical Center Utrecht, The Netherlands
- Koen Vincken, University Medical Center Utrecht, The Netherlands

#### ABSTRACT

**Background:** Interpreting medical images for diagnosing diseases is a complex skill and can avoid patients' harm. Developing image interpretation skills requires deliberate practice: intensive training focused on specific tasks, with feedback and possibilities for repetition and refinement. Serious gaming can facilitate this through gaming elements (e.g. immediate feedback, competition) that stimulate both motivation and learning activities. The aim of this study is to investigate medical students' motivation and learning activities for radiology education. The research question is: What is the effect of game elements on the motivation and learning activities of medical students for radiology education?

**Summary of Work:** A randomized counter balanced measures design was used. Three treatments were applied: all students first prepared radiology education based on a booklet with addition of online images (treatment 1). Next, they followed an interactive online e-learning module with feedback and suggestions for practice (treatment 2) as well as an online game (treatment 3), though in a different order. 223 second year medical students of a Dutch school for medical education participated. Motivation and learning activities during treatments were evaluated with a validated questionnaire ( $n = 202$ , Cronbachs alpha .91). After treatment 1 (booklet), the students were randomized into two groups (A and B), based on their degree of motivation during treatment 1. Group A started with treatment 2 followed by 3, and group B started with 3 followed by 2. The motivation and learning activities of the students within the treatments was compared with a mixed-design ANOVA.

**Summary of Results:** The game elements significantly impacted students' performance,  $F(1, 185) = 6.34$ ,  $p < 0.05$ , with a significant interaction effect between groups and game elements. Group A (e-learning module before game) scored at average higher than group B. Game elements did not impact students' completion of the task,  $F(1, 184) = 0.09$ ,  $p = 0.76$ .

**Discussion and Conclusions:** A serious game for radiology education for students does not increase training intensity, but can increase performance of trainees.

**Take-home Messages:** Preparation of radiology education by means of a serious game can improve medical students' learning activities in radiology.

## #8D Short Communications - Teaching and Learning - Games

### 8D2 (2825)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L3, Level 1

### OB-GYN-4 model: an intra-curricular activity contributes to 7 essential life skills development

#### AUTHOR(S):

- Pornnapa Suriyachai, Medical Education Center Phayao Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Intra-curricular activities mostly help students develop clinical skills while extracurricular activities play a big part in contributing essential life skills development. OB-GYN-4 model has been created and aimed at contributing 7 essential life skills development (analytical thinking, problem solving, public speaking, teamwork, leadership, goal setting, time management and prioritization) besides gaining knowledge.

**Summary of Work:** OB-GYN-4 model is multi-game show based learning activity that imitates various game shows in Thailand: 4by4 family game, Hollywood game night Thailand as in-class learning activity. It was implemented for 4th year medical students at medical education center Phayao hospital. We selected game shows which have rules that can stimulate 7 essential life skills development. One game show may stimulate only one skill or more. Then we carefully matched it with obstetric & gynecologic topics (pelvic pain, contraception, fetal monitoring, Norplant) and created questions in the game shows by using content in each topic. In classroom, 11 students were divided into 2 groups and competed against each other on game shows after studied on their own outside classroom.

**Summary of Results:** 7 essential life skills self-evaluations were measured by using numerical rating scale before and after class. By using OB-GYN-4 model, after class teamwork was in a first rank (mean 8.6). Different mean scores were 5.8, 5.5, 5.1, 6.1, 5.6, 6.3, 6.1, 6.6 respectively. All skills were significantly increased ( $p < 0.05$ ) and prioritization had biggest increased. It helped students significantly gain knowledge according to learning objective (mean 7.7) more than other learning methods (mean 5) ( $p < 0.05$ ). In short interview, students commented that OB-GYN-4 model made them enjoy and interest in the topics.

**Discussion and Conclusions:** Key component of OB-GYN-4 model are group competition and rules of game shows. Teamwork was mostly being promoted because of group competition and prioritization had biggest increased because normally it was seldom contributed in intra-curricular activities but we promoted it by rules of game shows. So intra-curricular activities can contribute essential life skills development as well as extracurricular activities.

**Take-home Messages:** We can create intra-curricular activities which contribute to essential life skills development and clinical skills.

## #8D Short Communications - Teaching and Learning - Games

### 8D3 (2187)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L3, Level 1

### When is the best time to use a serious game in undergraduate medical education? Findings from a prospective study

#### AUTHOR(S):

- Nikolai Schuelper, University Medical Centre Göttingen, Germany (Presenter)
- Insa Frisch, University Medical Centre Göttingen, Germany
- Angelina Middeke, University Medical Centre Göttingen, Germany
- Sven Anders, University Medical Centre Hamburg-Eppendorf, Germany
- Tobias Raupach, University Medical Centre Göttingen, Germany

#### ABSTRACT

**Background:** Serious games (SG) are increasingly being used in undergraduate medical education in order to augment teaching on a number of topics including clinical reasoning (CR). However, it is unclear at which point within the curriculum these games can be used most effectively.

**Summary of Work:** The undergraduate medical curriculum at Göttingen University Medical Centre consists of a two-year pre-clinical and a four-year clinical phase. Students take a module ('module 1') on cardiorespiratory diseases and their treatment at the beginning of the fourth year. Halfway through their fifth year they attend a repetition module ('module 2') where cardiorespiratory diseases are revisited from a presenting complaint perspective. In summer term 2017 we invited students attending these two modules to play six 90-minute sessions of a serious game simulating an accident & emergency department. In weeks 2 and 6, student performance with regard to CR in three virtual patient cases (pulmonary embolism, hypertensive crisis, NSTEMI) was assessed by analysing game logfiles recording each student's activity while playing the game. Changes in performance scores between student cohorts were assessed by an ANOVA.

**Summary of Results:** A total of 114 students (module 1: n=80; module 2: n=34) provided complete data at week 2 and week 6. Overall logfile scores increased from 57.4+/-1.3 to 65.1+/-1.4% in module 1 and from 57.9+/-2.2 to 66.5+/-2.2% in module 2, respectively (p for time <0.001; p for interaction 0.700). A more detailed analysis revealed that the increase was driven by improvement in performance related to patient management (d=0.93) but not history taking.

**Discussion and Conclusions:** We were surprised to find that the initial performance of students was similar in both modules, despite module 2 being a repetition module. The point within the curriculum at which the serious game was used did not predict learning outcome. The results suggest that CR teaching needs to be enhanced between the fourth and the fifth year at our institution. More advanced students benefited equally well from using the game than less advanced students.

**Take-home Messages:** During the clinical phase of undergraduate medical education, a serious game aimed at training CR competence is effective, irrespective of student level.



## #8D Short Communications - Teaching and Learning - Games

### 8D4 (819)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room L3, Level 1

### Gamification of Medical Education: A Systematic Review

#### AUTHOR(S):

- **Anne van Gaalen, Universitair Medisch Centrum Groningen, the Netherlands (Presenter)**
- Jasperina Brouwer, Rijksuniversiteit Groningen, the Netherlands
- Johanna Schönrock-Adema, Universitair Medisch Centrum Groningen, the Netherlands
- Debbie Jaarsma, Universitair Medisch Centrum Groningen, the Netherlands
- Janniko Georgiadis, Universitair Medisch Centrum Groningen, the Netherlands

#### ABSTRACT

**Background:** Gamification refers to the use of game-elements in a non-gaming context. Game-elements such as points, leaderboards, achievements or badges are implemented into educational contexts with the intention to raise engagement and motivation of students. However, currently, literature is lacking a systematic overview focusing on gamification in medical education. Therefore, we performed a systematic review investigating studies on gamification guided by three principal questions. What theoretical models drive the design of gamification in medical education? Which motives are used to apply game-elements? What is the empirical evidence for the effect of gamification in medical education?

**Summary of Work:** We conducted a systematic review in accordance with the guidelines of the Associations for Medical Education in Europe (AMEE). We searched in eight databases on terms on gamification and medical education. We excluded serious games.

**Summary of Results:** Out of 5044 identified articles, 44 were eligible for analysis. The majority (n=36) did not apply any theoretical framework. Six different motives for using gamification could be identified. On average two game-elements (range 1-4) were identified in each study. Only eight studies investigated gamification to a control group of which four were investigating simulations and competition. All studies showed a positive effect.

**Discussion and Conclusions:** This systematic review is the first to examine gamification in medical education as a separate identity from serious games. Despite a considerable amount of studies investigating gamification and the high satisfaction rates generally reported by the subjects that were included in them, results clearly indicate that most studies lack a solid empirical basis.

**Take-home Messages:** Applying gamification in medical education provide high satisfaction in students. Gamification seems to mediate but not necessarily moderate learning via the enhancement of motivation. Researcher investigating gamification should focus more on theoretical framework instead of only practicality.

## #8D Short Communications - Teaching and Learning - Games

### 8D5 (2294)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L3, Level 1

### Long-term effectiveness of using a serious game to train clinical reasoning: a prospective study with 1.5-year follow-up

#### AUTHOR(S):

- Tobias Raupach, University Medical Centre Göttingen, Germany (Presenter)
- Insa Frisch, University Medical Centre Göttingen, Germany
- Angéline Middeke, University Medical Centre Göttingen, Germany
- Caroline Morton, Imperial College London, UK
- Sven Anders, University Medical Centre Hamburg-Eppendorf, Germany
- Nikolai Schuelper, University Medical Centre Göttingen, Germany

#### ABSTRACT

**Background:** Serious games can be used to train clinical reasoning (CR). However, only few studies have used outcomes beyond student satisfaction, and most of the published evidence is based on short-term follow-up. This study assessed retention of CR competence in undergraduate medical students 1.5 years after using a serious game.

**Summary of Work:** We developed and validated a serious game simulating an accident & emergency department [1]. In summer 2017, fourth-year medical students participated in six 90-minute sessions of playing the game (intervention group). In the second and sixth session, student performance on three virtual patient cases was assessed by analysing game logfiles capturing student activity. In winter 2018/19, students played another session, and their performance was compared to students in the same year of undergraduate education who knew how to play the game but had not been exposed to the content (control group).

**Summary of Results:** Out of 80 eligible students in the intervention group, 58 were followed up. During the initial training phase, the overall percent scores for all three patient cases increased from 57.4+/-1.3% to 65.1+/-1.4% ( $p < 0.001$ ; Cohen's  $d = 0.93$ ). At 1.5-year follow-up, they scored 65.8+/-1.2%. Compared to the control group ( $n = 42$  out of 46 eligible students) who scored 60.1+/-1.4%, students in the intervention group achieved significantly higher scores ( $p = 0.003$ ;  $d = 0.62$ ).

**Discussion and Conclusions:** The considerable difference observed between previously exposed and unexposed students suggests a long-term effect of using the game although retention of specific cases rather than general principles might partially account for this effect. A major strength of the analysis is the comparison with students who were at the same level of education and had been exposed to the same curriculum, the only difference being that they had not used the game before. Conclusion: Using a serious game aimed at training clinical reasoning had a long-term effect on student performance. Future research needs to determine whether the effect is case-specific.

**Take-home Messages:** This study provides evidence of a long-term effect of using a serious game in undergraduate medical education.

References: 1. Middeke et al. PLOS ONE. 2018 Sep 11;13(9):e0203851.

## #8D Short Communications - Teaching and Learning - Games

### 8D6 (360)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room L3, Level 1

### Escape games as educational content to teach communication and knowledge sharing skills to first-year medical students

#### AUTHOR(S):

- **Yoshikazu Asada, Jichi Medical University, Japan (Presenter)**
- Yoshitaka Maeda, Jichi Medical University, Japan
- Yoshihiko Suzuki, Jichi Medical University, Japan
- Hiroshi Kawahira, Jichi Medical University, Japan
- Kazuya Atsumi, Jichi Medical University, Japan
- Motoshi Kikuchi, Jichi Medical University, Japan

#### ABSTRACT

**Background:** Scott Nicholson defines escape games as 'live-action team-based games where players discover clues, solve puzzles, and accomplish tasks in one or more rooms in order to accomplish a specific goal (usually escaping from the room) in a limited amount of time.' This study aims to reveal the possibility of using escape games to teach communication and knowledge sharing to first-year medical students.

**Summary of Work:** The class was conducted using the following schedule: (1) introduction (5 minutes); (2) the escape game (30 minutes); (3) showing the answer and preparing feedback (10 minutes); (4) group discussions (20 minutes); and (5) sharing ideas (5 minutes). Since the games typically require 60 minutes for completion, the actual time allotted for solving tasks was insufficient. Thus, instructors provided some hints during the game. The topics of discussion were as follows: (1) how to communicate with other group members; (2) how to divide roles within the group; and (3) comparison of escape games with other situations, such as a clinical setting. After the class, students submitted a written assignment about their reflections concerning the class. An optional questionnaire to evaluate the class was also provided.

**Summary of Results:** A total of 121 students (20 groups) attended the class. More than half the groups had the correct answer, but no group had the 'secret' answer. The results of the questionnaire showed that although there was insufficient time, the difficulties were moderate because enough hints were provided. Some interesting opinions were gathered from the written assignments, such as 'leadership and time management are important for solving puzzles and actual medical team collaboration' and 'the game used attractive means to teach difficult and dull contents.'

**Discussion and Conclusions:** Only knowledge-based tasks were used in this game. Some literature mentioned adding skill-based tasks, such as simulations. Although first-year students are not familiar with difficult procedures, such as endovascular ones, some simple tasks, such as hands-only CPR, would be usable. However, since the object of the class was to learn communication and knowledge sharing, skill-based tasks might not be suitable.

**Take-home Messages:** **Escape games have the possibility of teaching communication, knowledge sharing, and group dynamics to medical students.**

## #8E Research Papers - Learning Teamwork and Methods

### 8E1 (43)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1420

**Location of Presentation:** Hall M, Level 1

### A case study of experiential learning in quality improvement: delving deeper into assumptions of project-based learning

#### AUTHOR(S):

- Joanne Goldman, University of Toronto, Toronto, Canada (Presenter)
- Ayelet Kuper, University of Toronto, Toronto, Canada
- Ross Baker, University of Toronto, Toronto, Canada
- Beverly Bulmer, St. Michael's Hospital, Toronto, Canada
- Lianne Jeffs, Sinai Health System, Toronto, Canada
- Trey Coffey, SickKids Hospital, Toronto, Canada
- Christine Shea, University of Toronto, Toronto, Canada
- Cynthia Whitehead, University of Toronto, Toronto, Canada
- Kaveh Shojania, University of Toronto, Toronto, Canada
- Brian Wong, University of Toronto, Toronto, Canada

#### ABSTRACT

**Introduction:** The use of an experiential learning approach in quality improvement (QI) education has been strongly endorsed over the past twenty years and has come to be viewed as the optimal way of teaching QI. Experiential learning in QI education is widely operationalized by engaging learners in developing and executing a QI project. This type of learning can result in improvements in knowledge and, at times, care processes. However, QI project-based learning has been demonstrated to have challenges at the learner, program and organization levels. Uncertainty remains regarding the optimal ways to deliver training to maximize the learning and project outcomes of experiential learning in QI. Shifting the focus of QI education research to conceptualize and examine the realities of project-based learning in complex workplaces would deepen our understanding of the diverse factors that affect experiential learning processes and outcomes. To address this gap, we conducted a case study of QI education with a focus on project-based learning across three QI continuing education programs. This study aimed to explore individuals' experiences of QI project-based learning and professional and organizational factors that influence learning and project experiences.

**Methods:** An interpretive qualitative case study methodology (Stake, 2000) was used to examine the experience of project-based learning in three QI continuing education programs: a university Masters, a university Certificate, and a hospital Fellowship program. Case study methodology allows for an in-depth exploration of a phenomenon as situated within a complex social, cultural and political context. In an interpretive approach, researchers are sensitized towards participants' perceptions and experiences, including shared and divergent understandings and behaviours (Caronna, 2010; Stake, 2000). Data collection consisted of 58 interviews with participants, course directors, and organizational stakeholders; 135 hours of in-class observations; and relevant documents. Content and comparative analysis approaches were used. The evolving coding framework and themes were informed by a conventional approach, being derived directly from the data, as well as by a directed approach, being informed by relevant health professions education research (e.g. curriculum development, mentorship and experiential learning).

**Results:** The findings provide insight to five key factors that influenced participants' experiences of project-based learning. These were: 1. Variable emphasis on learning versus project objectives and resulting benefits, tensions and consequences; 2. Challenges with integrating the QI project into the curriculum timeline; 3. Variability in project coaching; 4. Participants' variable access to resources and influence over QI project given their professional roles; 5. The influence of the workplace environment on project success.

**Discussion and Conclusion:** The findings from this study point towards two possible future directions. The first involves commitment to invest in the factors identified in this study that influence experiential learning and to their complex interactions. The second requires an openness to questioning project-based learning and exploration of alternative models of QI learning, such as case-based or simulation approaches, when a project-based learning approach might not be feasible or optimal. Similar to experiential learning in the clinical context, project-based learning in QI in the health systems context, a relatively young field, will require further research using diverse methodological

and theoretical approaches to learn how best to deliver experiential QI training, and to consider the role of other approaches to QI education.

## References:

Stake R. Case studies. In Denzin NK and Lincoln YS (Eds.) *Handbook of Qualitative Research*. Thousand Oaks: Sage; 2000. Caronna CA. Why use qualitative methods to study health care organizations? Insights from multi-level case studies. In Bourgeault I, Dingwall R, and de Vries R (Eds.) *The SAGE Handbook of Qualitative Methods in Health Research*. Thousand Oaks: Sage Publications Ltd.; 2010.





## #8E Research Papers - Learning Teamwork and Methods

### 8E2 (102)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1420-1440

**Location of Presentation:** Hall M, Level 1

### Making a lecture stick: The effects of spaced instruction on knowledge retention in medical education

#### AUTHOR(S):

- Marjolein Versteeg, LUMC, Leiden, the Netherlands (Presenter)
- Marnix Timmer, LUMC, Leiden, the Netherlands
- Paul Steendijk, LUMC, Leiden, the Netherlands

#### ABSTRACT

**Introduction:** Medical students suffer from the persistent problem of forgetfulness, resulting in poor retention of medical knowledge and skills needed to become qualified health professionals<sup>1</sup>. This challenging issue may be resolved by implementing spaced learning in the medical curriculum. The spacing effect is one of the most robust phenomena in the science of learning. It establishes increased knowledge retention by repeating the to-be-learned information using temporal intervals, i.e. spacing the learning sessions. Spaced learning activities are already finding their way into (online) testing and simulation training, but the instructional phase seems to be overlooked. This is remarkable as one of the most commonly used teaching method to transfer knowledge is lecturing, in which a large volume of information is covered without interruption, resulting in poor retention. Guided by the need for instructional designs that enhance learners' knowledge retention, we designed a spaced learning lecture based on psychological and neuroscientific literature<sup>2</sup>. Our aim was to investigate the efficacy of spaced learning in the instructional phase in medical education.

**Methods:** In this study, second-year medical students (N = 149) were randomly allocated to either the spaced lecture group or a control group. The spaced lecture consisted of three 15-min instructional sessions, separated by 5-minute breaks with distractor activities. Repetition of the material was established by including a summary of the preceding information after each break. The control group received the exact same lecture, but without the breaks, thereby resembling a traditional lecture. A pre-post design was used, measuring students' baseline knowledge prior to the lectures (t = -14 days) and their knowledge retention one week after the lectures (t = 8 days).

**Results:** The retention test ( $\alpha = 0.74$ ) was performed by a total of 107 students (Spaced: n = 61, Control: n = 46). The average score on the retention test was not significantly different between the spaced lecture group ( $33.8 \pm 13.6\%$ ) and the control group ( $31.8 \pm 12.9\%$ ) after controlling for students' baseline-test performance ( $F(1,104) = 0.55$ ,  $p = 0.458$ ). Students' narrative comments showed that the experimental lecture format was well-received, and subjectively benefitted students' attention-span and engagement.

**Discussion & Conclusion:** This study was the first to implement spaced instruction in a medical lecture setting. Although, we were unable to show increased knowledge retention after a spaced lecture, we suggest that future research should focus on the development of instructional designs that contain elements of spacing and repetition to facilitate learning. Based on our findings combined with existing psychological theories and neuroscientific hypotheses, we provide recommendations for researchers and educators regarding the timing of intervening breaks, retrieval gaps and number of repetitions. Ultimately, we aim for optimized spaced learning designs in the medical curriculum that help to educate health professionals with a solid knowledge base.

**References:** Schneid SD, Pashler H, Armour C. How much basic science content do second-year medical students remember from their first year? *Med Teach*. 2018;1-3.

Smolen P, Zhang Y, Byrne JH. The right time to learn: mechanisms and optimization of spaced learning. *Nat Rev Neurosci*. 2016;17(2):77-88.



## #8E Research Papers - Learning Teamwork and Methods

### 8E3 (112)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1440-1500

**Location of Presentation:** Hall M, Level 1

### Exploring the undergraduate dental students' views of collaborative learning in the clinical learning environment

#### AUTHOR(S):

- Anna Dargue, University Hospitals Bristol NHS Foundation Trust, Bristol, UK (Presenter)

#### ABSTRACT

**Introduction:** Undergraduate dental students in the UK work together in pairs when treating patients as part of their clinical training. Collaborative learning is described as working together with shared effort and responsibility for a task.<sup>1</sup> Very few studies have explored the students' views of paired collaborative learning for clinical skills in the clinical setting, and only one study was found that was relevant to Dentistry. This study had limited depth due to its design.<sup>2</sup> Across the UK there are increased student numbers and finite resources available for dental clinical teaching. Local course evaluations over several years had given conflicting results on students' views of working in pairs. Thus, this study aimed to explore the dental students' perspectives of collaborative clinical working and identify whether any improvements could be made to the clinical learning environment. Ethical approval was obtained.

**Methods:** I used a constructivist, interpretivist inductive methodology with a phenomenological basis to understand the students' experiences and views of working in pairs. I chose stratified purposeful sampling to illustrate characteristics across the different years. Eight students from three clinical years recorded three audio-diaries using Gibbs reflective cycle as a guide, reflecting on their experiences of collaborative learning with peers. This was followed by individual semi-structured interviews. The diary-interview method was chosen to provide greater depth and clarity, and allowed investigation of individual beliefs. Inductive thematic analysis was performed on the data.

**Results:** Students had a mostly positive view of working in collaborative partnerships. Three main themes were identified around the focus of effective collaborative partnerships. These themes related to individual characteristics, relationships and learning.

**Discussion:** The students identified that effective collaborative learning partnerships used active, experiential and observational learning.

Positive aspects of collaborating with a student partner were feeling supported in their relationships, so creating a safe learning environment where they were comfortable asking questions. They also valued the emotional support that working with other students gave, and this helped them cope with pressure. They highlighted the development of friendships in healthy partnerships that made them feel they belonged. This increased trust and familiarity allowed for more effective feedback.

Working with a variety of partners was seen as positive and contributed to learning non-technical skills. A technique of 'benchmarking', comparing their knowledge and skills with those of a peer, was described by students when paired and was used in a constructive manner.

Negatives of collaborative learning related to interpersonal difficulties and led to students feeling unsupported in the clinical environment. This created a barrier to learning. Students also highlighted feeling frustrated in the assistant role and this increased as they become more experienced. Correspondingly they noted that observational learning provided lesser quality learning than experiential.

**Conclusion:** The study demonstrated the significance of social interaction and collaboration with peers to be a vital part of the clinical learning experience. Peers are seen to have an important effect on each other's learning in positive and negative ways.

Suggested improvements arising from this study are the use of ground rules for effective student partnerships and to promote a safe clinical learning environment. Students need to understand the value of the assistant role which staff can further encourage and support.

#### References:

1. Tolsgaard, MG. Kulasegaram, KM. Ringsted, CV. (2016). Collaborative learning of clinical skills in health professions education: the why, how, when and for whom. *Medical Education*, 50, pp. 69-78.
2. Qualtrough, AJE. (2001). Student operator-assistant pairs: an update. *British Dental Journal*, 190 (11), pp. 614-618.

## #8E Research Papers - Learning Teamwork and Methods

### 8E4 (197)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1520

**Location of Presentation:** Hall M, Level 1

### On the same page? The relationship between teamwork within clinical teaching teams and the experienced learning climate of their residents

#### AUTHOR(S):

- Iris Jansen, Amsterdam UMC, Amsterdam, The Netherlands (Presenter)
- Milou Silkens, Amsterdam UMC, Amsterdam, The Netherlands
- Renée Stalmeijer, Maastricht University, Maastricht, The Netherlands
- Kiki Lombarts, Amsterdam UMC, Amsterdam, The Netherlands

#### ABSTRACT

**Introduction:** Supportive learning climates are key to ensure high quality residency training and patient care (Silkens, et. al., 2016). Clinical teachers play an important role in creating and maintaining these climates. Efforts aimed at strengthening the role of clinical teachers have mainly focused on their teaching skills and supervisory styles. Recently, the perspective that clinical teaching is not just an individual effort, but a team effort, has been proposed. As a result, the concept of clinical teaching teams was introduced and used to describe how teaching teams collaborate to fulfil educational tasks and activities (Slootweg, et. al., 2014). However, the level of teamwork within these teams varies and might influence the resulting learning climate within a given department. The learning climate consists of three discrete facets: affective, cognitive and instrumental. Identifying the association between teamwork quality and specific learning climate facets could provide more insight into ways in which the postgraduate learning environment can be improved. Therefore we posed the following research questions: (1) To what extent is teamwork quality within teaching teams associated with the residents' experienced learning climate, and more specifically (2) with the affective, cognitive and instrumental facets of the learning climate?

**Methods:** This study included clinical departments that used two validated questionnaires in the period from January 2014 through May 2017. The TeamQ questionnaire evaluated teamwork quality of clinical teachers within a teaching team. The Dutch Residency Educational Climate Test (D-RECT) questionnaire evaluated residents' experienced learning climate. Both questionnaires were administered through a web-based system. Associations were analysed using multilevel models and multivariate general linear models.

**Results:** In total, evaluations of 47 teaching teams and 400 residents within 16 hospitals were included in this study. Teamwork quality was positively associated with the overall residents' learning climate ( $b = 0.33$ ; 95% CI = 0.06 – 0.60) as well as with the affective ( $b = 0.50$ ; 95% CI = 0.06 - 0.94) and instrumental ( $b = 0.42$ ; 95% CI = 0.11 - 0.74) learning climate facet. The results on the cognitive domain were non-significant ( $b = 0.35$ ; 95% CI = -0.07 – 0.77).

**Discussion & Conclusions:** Teamwork quality of teaching teams was positively associated with residents' perceptions of the overall learning climate as well as with the affective and instrumental learning climate facets. This implies that social relationships between teaching teams and residents (affective facet) as well as structure and hierarchy (instrumental facet) benefit from the quality of teamwork. The association between teamwork and the cognitive learning climate facet was not significant which might be explained by this facet's orientation at the residents' own responsibility. Our results suggest improving the postgraduate learning climate can be reached through promotion of teamwork within clinical teaching teams. This resonates with studies emphasising the importance of creating teaching communities to enhance residency training. Future research could widen the lens to include the role of other health professionals on residency training.

#### References:

Silkens MEWM, Smirnova A, Stalmeijer RE, Arah OA, Scherpier AJA, Van der Vleuten CPM, Lombarts KMJM. 2016. Revisiting the D-RECT tool: Validation of an instrument measuring residents' learning climate perceptions. *Med Teach.* 38(5):476-481.  
Slootweg IA, Lombarts KM, Boerebach BC, Heineman MJ, Scherpier AJ, van der Vleuten CP. 2014. Development and validation of an instrument for measuring the quality of teamwork in teaching teams in postgraduate medical training (TeamQ). *PLoS One.* 9(11).

## #8F Research Papers - Review of Literature

### 8F1 (53)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1420

**Location of Presentation:** L6, Level 1

### A Scoping Review on The influence of prior performance information on ratings of present performance: Implications for learner handover

#### AUTHOR(S):

- Susan Humphrey-Murto, University of Ottawa, Ottawa, Canada (Presenter)
- Aaron LeBlanc, University of Ottawa, Ottawa, Canada
- Claire Touchie, Medical Council of Canada, Ottawa, Canada
- Debra Pugh, University of Ottawa, Ottawa, Canada
- Timothy J. Wood, University of Ottawa, Ottawa, Canada
- Lindsay Cowley, University of Ottawa, Ottawa, Canada
- Tammy Shaw, University of Ottawa, Ottawa, Canada

#### ABSTRACT

**Introduction:** The system of training at many medical schools and at the postgraduate level is fragmented and organized in blocks through which trainees rotate. In a competency-based medical education (CBME) framework, however, assessment and feedback should be continuous. Since longitudinal supervision is often not possible, sharing information about the learner across rotations may enable more efficient and effective tailoring of the educational experience. Learner handover (LH), also called forward feeding, is defined as the sharing of information about learners between faculty supervisors involved in their education. Although many faculty and learners favor the practice, others have expressed concerns that LH may cause stigmatization leading to bias of future assessments.(1) Does the literature support these concerns? There is little information in the medical education literature, but the psychology literature is replete with studies surrounding the potential for bias.(2) When a rater is provided with knowledge of prior performance the following context effects may occur: bias toward the direction of the prior performance level (i.e., assimilation effect), bias away from the direction of the prior performance level (i.e., contrast effect), or no effect whatsoever. These prior performance context effects are undoubtedly relevant to LH. The purpose of this review was to summarize key concepts across disciplines surrounding the influence of prior performance information (PPI) on subsequent ratings.

**Methods:** Using the Arksey and O'Malley framework, a scoping review was completed to systematically select and summarize the literature from multiple cross-discipline databases. Inclusion criteria were selected to represent PPI relevant to LH; namely, the information must be indirect (i.e. from an external source) and within-subject (i.e. the information is about the same person as the target performance). Using the OVID platform, we searched OVID MEDLINE, including Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Embase, ERIC, PsycINFO, ABI/INFORM (ProQuest) and Business Source Complete (Ebsco) from 1970- January 2018. Since this topic was noted to be very dispersed in the literature and was indexed inconsistently, we added a snowballing-type review and an author search for 16 key authors. A data extraction form was used, and study results were combined using quantitative and thematic analyses.

**Results:** Of 24,442 records initially identified, 24 studies met inclusion criteria. Research settings included students rating teachers (n=8), job performance evaluations (n=9), employment interviews (n=2), sports (n=2), music assessments (n=2), and teachers evaluating students (n=1). Most studies revealed an assimilation effect (i.e., when compared to no PPI, raters exposed to negative or positive PPI scored the same target performances lower or higher respectively). Factors observed to modify this effect included (1) knowledge of poor (negative) PPI were associated with larger effect sizes than those corresponding with knowledge of good (positive) PPI; (2) general standards for performance provided to raters led to greater assimilation than specific standards; (3) increasing processing demands on the rater increased context effects; (4) increasing rater motivation reduced assimilation; (5) rater expertise and training revealed mixed results.

**Conclusions:** When raters are provided with indirect (external) prior performance information about an individual, an assimilation bias was demonstrated across multiple settings. It is not clear if these findings are generalizable to the medical education milieu, but these results should be considered by educators in the context of learner handover.

**References:** Mims LD, DeCastro AO, Kelly AG. Perspectives of family medicine clerkship directors regarding forward feeding: A CERA Study. *Fam Med.* 2017;49(9):699-705. Nieminen LRG, Rudolph CW, Baltés BB, Casper CM, Wynne KT, Kirby LC. The combined effect of rater's bodyweight and past performance information on performance judgments. *J Appl Soc Psychol.* 2013; 43:527-543.



## #8F Research Papers - Review of Literature

### 8F2 (66)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1420-1440

**Location of Presentation:** L6, Level 1

### Patient involvement in health professionals' education: A meta-narrative review

#### AUTHOR(S):

- Paula Rowland, University of Toronto, Toronto, Canada (Presenter)
- Melanie Anderson, University of Toronto, Toronto, Canada
- Arno K Kumagai, University of Toronto, Toronto, Canada
- Sarah McMillan, University Health Network, Toronto, Canada
- Vijay Sandhu, University of Toronto, Toronto, Canada
- Sylvia Langlois, University of Toronto, Toronto, Canada

#### ABSTRACT

**Introduction:** More than 100 years ago, William Osler inspired educators to consider health professions education (HPE) as intricately reliant on patients. Since that time, patient involvement in HPE has taken on many different meanings. The result is a disparate body of literature that is challenging to search, making it difficult to determine how to continue to build knowledge in the field. To address this problem, we conducted a review of the literature on patient involvement in HPE using a meta-narrative review (MNR) approach. The aim of this review was to synthesize how questions of patient involvement in HPE have been considered across various research traditions and over time.

**Methods:** MNR is a form of knowledge synthesis concerned with exploring the history, guiding assumptions, and key findings that exist within disparate research traditions comprising a scholarly field. Procedures for this study followed the guidelines published by RAMESES and evolved through three main phases: collecting the archive, analysis, and interpreting intersections between higher order concepts. The search process and resulting analytical procedures were informed through ongoing consultations with an expert advisory council. Sources included in the review included primary studies, review articles, conceptual pieces, and editorials related to patient involvement in health professions education. We excluded from our search articles that were solely concerned with patient involvement in clinical care and were not explicitly linked and/or theorized in relation to learning or education. To manage the scope of the review, we excluded sources that were concerned with patient involvement in patient education. Our final archive included 295 sources for analysis.

**Results:** In this paper, we focus on three meta-narratives of patient involvement in HPE. These meta-narratives refer to coherent ways of thinking in which patients are constructed in particular ways, specific rationales for patient involvement are offered, and different research traditions are put to use in the field. We labelled these three meta-narratives in terms of their main areas of concern: (1) democratization of health professions education, (2) creation and maintenance of reproducible learning and assessment practices, and (3) developing social understandings of learning in care contexts.

**Discussion:** Attending to the intersections between these three meta-narratives, we focus on a core concept in patient involvement in HPE: the notion of "active patient engagement". In our analysis, we came to understand three different ways in which the "active patient" was conceptualized: politically, instrumentally, and theoretically. These different constructions of "active patient engagement" lend themselves to different program designs, scholarly traditions, and possible debates.

**Conclusion:** Patient involvement in HPE is being performed in multiple ways simultaneously. The outcomes of these performances invariably differ, as does their potential for unintended consequences. For example, where patient involvement performs as a political exercise, questions of patient voice, representation, and representativeness become relevant, but accountabilities to learners along the principles of transparent assessment practices and equitable learning opportunities may be less visible. When patient involvement performs as an instrumental endeavour, accountabilities to learners may be more explicitly addressed, but unintended and unexplored paternalism towards patients may persist. Future research into patient involvement in HPE may not be best served by asking "does this work?", but instead by asking "what work does this patient involvement do?", "for whom?", and "how will we know?".

**References:** Rowland, P., Anderson, M., Kumagai, A. K., McMillan, S., Sandhu, V. K., & Langlois, S. (Accepted October 4 2018). Patient involvement in health professionals' education: a meta-narrative review. *Advances in Health Sciences Education*.

Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., & Pawson, R. (2013). RAMESES publication standards: meta-narrative reviews. *BMC medicine*, 11(1), 987-1004.



## #8F Research Papers - Review of Literature

### 8F3 (89)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1440-1500

**Location of Presentation:** L6, Level 1

### Educational implications of clinical service divisions: a Bakhtinian analysis

#### AUTHOR(S):

- Clare Whitehead, University of Manitoba, Winnipeg, Canada (Presenter)
- Brett Schrewe, The University of British Columbia, Victoria, Canada
- Jeffrey Hyman, University of Manitoba, Winnipeg, Canada
- Ayelet Kuper, University of Toronto, Toronto, Canada

#### ABSTRACT

**Introduction:** Delivering compassionate, person-centred care is at the heart of medical practice. Specific learning contexts, including different residency rotations, may shape how trainees learn to provide such care. At our study site, patients are admitted to one of three general paediatrics services depending on where they live and whether their primary care provider is a paediatrician. While Services B and C primarily admit children who either live in the urban centre where the hospital is located or in communities in the south of the province, Service A admits patients who come to hospital from remote and isolated communities in northern Canada. Most of these are Indigenous communities with no road access or running water, high costs of living, and overcrowded substandard housing. In this project we sought to examine what the separation of patients into inpatient services based on their socio-demographics might be teaching paediatric residents about the delivery of effective person-centred care.

**Methods:** The theoretical framework for this project derives from the work of Russian linguist and literary theorist Mikhail Bakhtin. We drew on Bakhtin's concepts of dialogue and monologue, including the finalization that results from monologic interactions. Bakhtin describes finalization as an idea becoming fixed, such that it can no longer be challenged or questioned, often resulting in a person being portrayed without nuances to distinguish them from broad societal ideas about their identity. Our methodology was an instrumental case study with three embedded units (Services A/B/C). We iteratively gathered data via semi-structured interviews with current paediatric residents, focusing on their experiences interacting with patients and families on the three inpatient services. We coded and analyzed the interview transcripts using Bakhtin's concepts as a theoretical lens, seeking to understand how trainees described patients and families on each service and how this shaped the care they had learned to provide. The subset of findings in this abstract focuses on one of these services (Service A), with the other two services acting as comparators.

**Results:** We found that paediatric residents quickly learn to finalize patients and families admitted to Service A, describing them as a homogeneous group. Their families are described as being physically absent from the hospital; disengaged from their child's care; and not understanding what is happening in hospital. This finalization has negative consequences for effective communication (which is often not seen as possible) and for advocacy for systems change (at the hospital or within the broader system). Residents articulate being aware of, and indeed deeply troubled by, this finalization and its implications. They do not believe that it is a desired outcome of their educational program, but they also do not know how to move beyond it within the constraints of their hospital setting.

**Discussion & Conclusions:** The system for dividing up inpatients into the three different general paediatrics services at this children's hospital in Canada was developed based on historical factors. This project identifies the resulting finalization of patients and families on one specific service, leading to troubling implications for education, resident wellbeing, and ultimately patient care. Our analysis has implications for

understanding structural barriers to person-centred care in clinical contexts and points to potential educational interventions to mitigate their effects.

**References:**

Bakhtin, Mikhail. 1984. Problems of Dostoevsky's Poetics. First edition. University of Minnesota Press.



## #8F Research Papers - Review of Literature

### 8F4 (105)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1520

**Location of Presentation:** L6, Level 1

### Factors influencing autonomy supportive consultation: a realist review

#### AUTHOR(S):

- **Joyce Kors, Amsterdam UMC, Vrije Universiteit Amsterdam, Research in Education, VUmc School of Medical Sciences, Amsterdam, Netherlands (Presenter)**
- Emma Patternotte, Meander Medisch Centrum, department gynecology & obstetrics, Amersfoort, Netherlands
- Linda Martin, Amsterdam UMC, Vrije Universiteit Amsterdam, Midwifery Science, AVAG, Amsterdam Public Health research institute, Amsterdam, Netherlands
- Corine Verhoeven, Amsterdam UMC, Vrije Universiteit Amsterdam, Midwifery Science, AVAG, Amsterdam Public Health research institute, Amsterdam, Netherlands
- Linda Schoonmade, Vrije Universiteit Amsterdam, Medical Library, Amsterdam, Netherlands
- Saskia Peerdemans, Amsterdam UMC, Vrije Universiteit Amsterdam, Research in Education, VUmc School of Medical Sciences, Amsterdam, Netherlands
- Rashmi Kusrkar, Amsterdam UMC, Vrije Universiteit Amsterdam, Research in Education, VUmc School of Medical Sciences, Amsterdam, Netherlands

#### ABSTRACT

**Introduction:** Traditionally the patient-healthcare professional relationship was paternalistic, in which the professional made the decisions on behalf of the client. There has been a paradigm shift away from this type of encounter toward a more patient-centered care, in which the patient is more empowered, informed, and autonomous. We know that there is room for improvement in the way professionals facilitate patient's empowerment and autonomy during consultation. Autonomy supportive consultation is theoretically based on the Self-determination Theory, a general theory of human motivation. By satisfaction of three fundamental psychological needs: autonomy, competence and relatedness professionals could facilitate more autonomous forms of self-regulation of health among patients (Ng et al, 2012). The aim of this review is to determine how contextual factors support or hinder the development of an autonomy-supportive climate and identify the factors which influence the mechanisms to support a patient's autonomy before, during and after decisionmaking in consultations and the outcomes.

**Methods:** We conducted a systematic review of the literature using the realist synthesis method guided by RAMESES guideline (Wong et al, 2013). A realist review allowed us to analyze heterogeneous evidence to understand an underlying mechanism. The data are analyzed using the model of context, mechanism and outcome. Literature searches were performed by an experienced information specialist in Pubmed, Embase, PsycINFO and Cinahl. These databases were searched using a combination of the following keywords and synonyms: Autonomy, Support, Consultation/communication and Intervention. The titles and abstracts of the articles were screened independently for inclusion by two authors. Second two authors assessed the full texts of the remaining articles for inclusion. The focus was on empirical studies involving autonomy support of clients or patients in an individual interaction in a healthcare setting. Any disagreement was discussed and resolved through consensus. Data extraction, analysis and synthesis was finalized with the full research team.

**Results:** Out of 2200 articles which were found through the search, 16 met the inclusion criteria. Five of these articles investigated the provider perspective and 11 articles used the patient perspective. We first filtered the context factors and found that the work organization, the attitude and competence of a professional are important factors for creating an autonomy-supportive climate during a consultation. As mechanisms we found overarching factors and ones which were important before, during and after the decision-making. The most crucial overarching factor was knowing the client. During the decision-making process respectful interaction on rational and emotional issues was important. Two relevant patients outcomes we found were higher perceived decision satisfaction and higher compliance for treatment or behavior change.

**Discussion & Conclusions:** Healthcare providers like to give information but hardly provide autonomy support during consultation. In this review we found that to realize an autonomy-supportive climate the attitude and competence of professionals play a crucial role. To facilitate the transition to become a more autonomy-supportive professional,

training is required. Based on the new insights generated into context and mechanisms of autonomy support we intend to develop a framework for training.

**References:** Wong G, Greenhalgh T, Westhorp G, Buckingham J, Pawson R. RAMESES publication standards: realist syntheses. BMC Med 2013;11:21. NG Johan Y, Ntoumanis Nikos, Thøgersen-Ntoumani Cecilie, Deci Edward L, Ryan Richard M, Duda Joan I, Williams, Geoffrey C. Self-Determination Theory Applied to Health Contexts: A Meta-Analysis. Perspectives on Psychological Science. 2012;7(4):325-340



## #8G PechaKucha(TM) 2

### 8G1 (2946)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1409

**Location of Presentation:** Room 1.85-86, Level 1

### An innovative concept model for on-call simulation training: 'Bleep test: Doc On Call'

#### AUTHOR(S):

- Swati Parida, University Hospitals Leicester Trust, UK (Presenter)
- Kishan Patel, University Hospital Leicester trust, UK
- Daniel Gill, University Hospitals Leicester Trust, UK

#### ABSTRACT

Over 40% Of UK medical school graduates feel unprepared for starting foundation training; specifically being on-call, management of acute clinical situations, prescribing, clinical prioritisation and time management.<sup>1</sup> Across all medical schools, students feel that they would benefit from on-call simulation being integrated into the formal medical school curriculum.<sup>2</sup>

To aid the transition between final year medical students and foundation doctors working on-call shifts independently, we designed and implemented an immersive simulation programme for (post finals) final year medical students at the University Of Leicester. The aims were to provide medical students the opportunity to practice giving and receiving handover, responding to bleeps, task prioritisation, prescribing, medical telephone discussions, assessing acutely unwell patients, formulating management plans independently and familiarising themselves with the logistics of medical on call shifts.

Each 3 hour session consisted of 5 final year medical students being handed bleeps and being bleeped to attend to common on-call scenarios across a large University teaching hospital site; involving simulated patients and tutors examining them. Scenarios included common presentations and ward jobs such as patient with hyperkalaemia, prescribing warfarin, prescribing fluids for acute kidney injury, postoperative analgesia and sepsis stations. Students were able to phone a 'mock switchboard' allowing them to speak to seniors as in a real shift. Students received a handover before 'their shift' and were expected to handover sick patients afterwards. They then receive personalised one-to-one feedback regarding their performance and tips for on-call shifts.

Primary outcomes measured to assess the efficacy of our programme were overall on-call confidence, managing acutely unwell patients, giving and receiving handovers, telephone discussions with other disciplines, task prioritisation, time management, escalating sick patient appropriately. These were measured qualitatively with pre and post-confidence questionnaires. Additionally we followed up the students once they had commenced foundation training to assess the impact of our programme on their postgraduate practice. In this poster, we present our initial pilot model and the subsequent feedback-driven process leading to our successful high-fidelity on-call simulation programme.



## #8G PechaKucha(TM) 2

### 8G2 (1849)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1409-1418

**Location of Presentation:** Room 1.85-86, Level 1

### Beyond Statistics: an innovative staff student project challenging black stereotypes

#### AUTHOR(S):

- Bankolu Alo, St. George's University of London, UK (Presenter)
- Valentina Abi Osman, St. George's University of London, UK
- Adrian Crawford, St. George's University of London, UK
- Margot Turner, St. George's University of London, UK

#### ABSTRACT

A Black Minority Ethnic (BME) student differential attainment gap has been identified in North American and European universities for over 20 years. This is a complex multi-factorial issue. However, some research has identified the impact of negative stereotyping, and black students have highlighted a lack of role models available, as well as an absence of black perspectives in course material.

St George's, like other universities, has identified that there is a BME attainment gap and the literature has shown Black Caribbean students and Black African students have the highest gap at 26%. Universities have a legal obligation to address this issue but are often struggling to get beyond the statistics. We created a joint staff student project to highlight positive role models in health and medicine. We want to do a short visual presentation on our project to use and create art work to celebrate the contribution of Black Caribbean people to the NHS. We have documented our journey in creating canvasses to celebrate the achievements of Black Caribbean pioneers in health and science. We want this to be an ever-growing resource that can move around the university encouraging more people to share their families' histories.

We hope this work will challenge the defaulted white-centric reverence often seen in our university spaces and provide a nuanced historical context often missing in our medical schools, which will encourage future black doctors, healthcare workers and scientists. In qualitative evaluation, so far BME students have said this project has filled a gap and made them feel more represented and respected.

## #8G PechaKucha(TM) 2

**8G3** (2236)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1418-1427

**Location of Presentation:** Room 1.85-86, Level 1

### Different Ways of Knowing: Teaching Visual Wisdom With Art

#### AUTHOR(S):

- Christine Todd, Southern Illinois University School of Medicine, USA (Presenter)

#### ABSTRACT

I have been showing art to medical trainees for 15 years, as a method of increasing their ability to intuit narrative meaning from what they see. Although many students have no background in the humanities, they can appreciate that learning to look and describe with mindfulness and care is a useful doctoring skill. In the process of developing visual literacy, however, students also learn lessons about the power of non-verbal communication, discover how rigorous description can lead to epiphanies of understanding, develop a non-technical vocabulary for expressing emotion, and broaden their cultural and historical backgrounds. Spending time in the presence of great art puts us in direct touch with our humanity, an experience I would like to replicate by showing the works of art I use in my workshops while sharing the insights my students have had while examining them.



## #8G PechaKucha(TM) 2

**8G4** (2982)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1427-1436

**Location of Presentation:** Room 1.85-86, Level 1

### Benefits of Student-Driven Wellness Choices Versus Mandated Wellness Programs in a Medical School Setting

#### AUTHOR(S):

- Robert Hage, St. George's University, Grenada (Presenter)
- Kristen Santana, St. George's University, Grenada
- Shauna Maty, St. George's University, Grenada

#### ABSTRACT

At conferences frequently heard buzzwords include empathy, wellness, burnout, suicide prevention, and resilience. Increased rates of depression, burnout, and even unprofessional behaviors in medical students have been directly linked to a lack of coping mechanisms. Given the pervasive nature of these traits, schools are motivated to create programs promoting wellness and wellbeing. However, cultivating student engagement in mandatory well-being activities can be particularly difficult.

Most strategies applied to promote wellness in the medical curriculum attempt to create awareness and address the stressors commonly experienced by medical students. Common methods include lecture-based presentations, workshops, and online modules. Medical students find the mandatory nature and regimented structure yielding mediocre results. These sessions lack the perceived control and autonomous decision making that generate long-term compliance and neglect wellness of the body and spirit. In order to address this problem, students and faculty members collaborated in creating a well-being selective that encourages autonomous decision making and perceived control by applying a small points reward system towards students obtaining one credit on their transcript.

The overarching goal of the selective is to inspire long-term habits and healthy coping mechanisms surrounding mind, body, and spiritual well-being. Perceived control is the major determinant of compliance, therefore the selective is structured around providing numerous activities students can choose to participate in throughout the duration of their medical school experience. Participation with this program is fostered through the use of a small points reward system with the goal of long term retention, similar to a loyalty card rewards system.

With the expanded implementation and promotion of the well-being selective, students will become increasingly engaged given the choice of a variety of activities in conjunction with the proposed small points reward system. These activities will enrich their physical and spiritual wellness, thereby instilling positive, sustainable behavioral change that will augment their medical education. These students will leave the selective with the tools to cope with a high-stress profession and effective outlets that curate a well-adjusted, empathetic medical student. Looking to the future of healthcare, these well-being skills will improve physician-patient relationships and engender positive patient outcomes.

## #8G PechaKucha(TM) 2

**8G5** (2351)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1436-1445

**Location of Presentation:** Room 1.85-86, Level 1

### A Dose of Reality: The Cure for the Profession of Pharmacy?

#### AUTHOR(S):

- **Amanda Chichester, University of Rhode Island, USA (Presenter)**
- Clinton Oscar Chichester III, University of Rhode Island, USA

#### ABSTRACT

In the United States, the role and responsibilities of the pharmacist has expanded well beyond the community setting. Despite limited practice experience, new pharmacy graduates become active members of the healthcare team caring for patients with complex medical needs. To prepare graduates for the rigor of professional practice, programs and faculty need to reevaluate and revise both content and method of delivery to optimize outcomes. A curriculum designed to develop professional identity will produce adaptable, humanistic professionals who deeply care for their patients and community. We have designed and integrated a developmental-focused high-fidelity simulation (HPS) curriculum that places dual emphasis on application of knowledge as well as ongoing discussion and reflection of the individual motivations, beliefs and behaviors that influence professional practice and patient outcomes. This presentation will demonstrate the power of a well-designed HPS curriculum that prepares Doctor of Pharmacy students for a dynamic and rapidly evolving profession.



## #8G PechaKucha(TM) 2

**8G6** (1961)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1454

**Location of Presentation:** Room 1.85-86, Level 1

### 360 degree Theatre Induction

#### AUTHOR(S):

- Junaid Fukuta, University of Bristol, UK (Presenter)

#### ABSTRACT

**Introduction:** The operating theatre is a unique learning environment for medical students however, it has been reported to be an uncomfortable environment for students due to feelings of intimidation. To alleviate these feelings studies have shown that students appreciate the concept of having a theatre induction. Whilst physical inductions of operating theatres do occur they are rarely formally done for medical students. We wanted to generate an e-learning tool to help with medical students transitioning into operating theatres. We decided to utilise a 360-degree camera which places the viewer 'within' that environment through the use of their own smartphones.

**Method:** We generated a 360-degree video filmed from a first-person perspective utilising a specially adapted video harness. It was scripted to outline the main concepts of theatre etiquette, the WHO checklist and a run through of the roles of the different theatre staff. This was uploaded to a video sharing website and shown to 34 medical students prior to the start of their first clinical placement. It was delivered in a single teaching session utilising the students' own phones to allow full immersion into the scenario. It was evaluated by scoring their factual knowledge of theatre environments as well as their confidence change prior to and post watching the video. These were then analysed using Student's t-test.

**Results:** The students' knowledge scores were 38% prior and 78% post watching the 360 degree ( $p < 0.01$ ). Confidence scores were 4.3/10 prior and 6.1 post watching the video ( $p < 0.01$ ).

**Conclusions:** To the best of our knowledge this is the first time that 360-degree videos have been used to help in medical student inductions. The positive results highlight the potential that this technology could have for induction programmes by placing the viewer directly into that new environment.



## #8G PechaKucha(TM) 2

### 8G7 (2406)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1454-1503

**Location of Presentation:** Room 1.85-86, Level 1

### Co-production: would it work for workplace-based assessment redesign?

#### AUTHOR(S):

- Raghdah Al-Bualy, Oman Medical Specialty Board, Oman (Presenter)
- Marjan Govaerts, Maastricht University, The Netherlands
- Sylvia Heeneman, Maastricht University, The Netherlands

#### ABSTRACT

If you've been following workplace-based assessment research, you must have noticed that recent literature has revealed negative perceptions towards workplace-based assessments (WBA) and its implementation. This is due to multiple reasons one of which may be due to the lack of involvement of key stakeholders in its design. Being involved in postgraduate medical education, we notice that many times, educational innovations are created by one group and implementation is carried out by another. Hence, there may be a slight disconnect between the designers and the implementers (whoever this group may include). Other times, we notice that educational innovations implementation follow a top-down approach, leaving those involved unengaged and without a sense of ownership for the process.

Being embedded in healthcare practice, WBA programs must account for and incorporate the complexity of rapidly changing healthcare systems. Therefore, use of service models, such as co-production, has been recently proposed as a possible way to optimize stakeholder engagement and thus implementation of workplace-based learning and assessment.

In this PechaKucha, we will explore the utility of a co-production model for innovating medical education assessments in postgraduate education. More specifically, the change laboratory (CL) method is used to explore the impact of co-production on the redesign and implementation of WBA as well as on its key stakeholders. We will share our experience so far with co-creating WBA in the postgraduate medical education setting. The ultimate goal of our project is to support participants in redesigning their work resulting in an expansive learning cycle grounded in cultural historical activity theory (CHAT). By the end of the pechakucha, you will hear why we've selected this approach, how we've done it, challenges faced, lessons learned and tips to implement a similar approach in postgraduate medical education design.

## #8G PechaKucha(TM) 2

8G8 (1975)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1503-1512

**Location of Presentation:** Room 1.85-86, Level 1

### Predicting identity as a medical educator and openness to improve in sessional and tenured faculty

#### AUTHOR(S):

- **Abigail Snook, University of Iceland, Iceland (Presenter)**
- Asta Schram, University of Iceland, Iceland
- Brett D. Jones, Virginia Polytechnic Institute and State University, USA
- Thorarinn Sveinsson, University of Iceland, Iceland

#### ABSTRACT

**Introduction:** Researchers suggest that a teacher's work environment affects their sense of connectedness and appreciation, which affects their identity as a medical educator. We hypothesized that perceived connectedness and appreciation predicts identity as a medical educator and an open attitude to reflective practice and diverse teaching methods for improvement. Testing this hypothesis on sessional (adjunct, clinical) and tenured faculty, we compared models to guide faculty development.

**Methods and data:** We used a validated 'identification with teaching' scale to measure identity as a medical educator and developed the other scales based on literature reviews. We conducted confirmatory factor analyses and structural equation modeling using data from a sample of 78 tenured faculty and 160 sessional faculty at a health sciences school and examined differences between the models.

**Results:** We found that connectedness and appreciation predicted identity as a medical educator and openness to improve in different ways for sessional and tenured faculty. For tenured faculty, appreciation predicted identity as a medical educator, whereas a sense of connectedness to their department trended towards predicting an openness to improve. For sessional faculty, connectedness to their department predicted identity as a medical educator. For all teachers, identity as a medical educator strongly predicted an openness to improve.

**Conclusions:** Our data supported the proposed hypothesis, but the sessional and tenure-track faculty models differed in strength and focus. We suggest reasons for these differences based on the working environment of each teacher type. We argue that the two models partially explain the transformation from 'a clinician who teaches' to a medical educator. Finally, we make suggestions for how identity as a medical educator and openness to improve can be encouraged in both types of teachers.

## #8H Short Communications - Patient as Educator 1

### 8H1 (2770)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 1.61-62, Level 1

### A teaching course 'Experience of a diabetic patient' based on the partnership of a teaching patient and medical doctor

#### AUTHOR(S):

- Lucile Wahl, Faculty of medicine, Université de Lyon, France (Presenter)
- Audrey Chaumier, Faculty of medicine Lyon Est, Université de Lyon, France
- Nicolas Lechopier, Faculty of medicine Lyon Est, Université de Lyon, France
- Philippe Moulin, Faculty of medicine Lyon Est, Université de Lyon, France
- Gilles Rode, Faculty of medicine Lyon Est, Université de Lyon, France
- Alain Moreau, Faculty of medicine Lyon Est, Université de Lyon, France

#### ABSTRACT

**Background:** Teaching patient centered approach (PCA) is a key issue in medical studies. The faculty of medicine in Lyon organized a two hours course intended for medical students in the fourth year. It involved a diabetic patient and a doctor (endocrinologist or general practitioner), working together as teachers. The aims were to show the students the value of hearing the patients' experience of living with a chronic disease, such as diabetes, and develop their communication skills. The course started with a brainstorming. Students discussed why and what doctors should explore during a consultation, and how they should listen to the patient. Then, they were encouraged to explore the teacher-patient's (TP) experience of diabetes, applying the communication skills they had previously identified. The objective of our study was to evaluate the students' satisfaction about this course.

**Summary of Work:** We conducted a descriptive quantitative study with a qualitative insight. The students answered questionnaires containing Likert and open-ended questions. We conducted a statistic analysis, combined with a qualitative thematical analysis by three researchers.

**Summary of Results:** 205 students out of 396 answered the questionnaire. After this course, 85% were convinced that exploring the experience of a patient with a chronic disease is helpful. They appreciated being able to talk freely with the TP outside the usual context of the medical relationship. For 79%, it helped them develop their communication skills, especially their empathic attitude. 91% of the students found that the presence of a doctor and a patient gave complementary perspectives on care. Nevertheless, they sometimes found that the TP felt uneasy during the class. Some students considered the TP 'too good' and suggested they could learn more from patients having trouble controlling their disease.

**Discussion and Conclusions:** The positive perception of this course by students is in line with the results of educational programs with TPs in France and abroad. Discussing the profile and recruitment of TPs, and the relevance of a specific pedagogical training for TPs seems important. This study encourages the implication of TP in the medical studies.

**Take-home Messages:** TPs help students to learn communication skills and give a new perspective on care.

## #8H Short Communications - Patient as Educator 1

### 8H2 (2826)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 1.61-62, Level 1

### Empowering adolescent patients in undergraduate medical education

#### AUTHOR(S):

- Jonathan Darling, Leeds Institute of Medical Education (LIME), School of Medicine, University of Leeds, UK (Presenter)
- Rebecca Bardgett, Bradford Teaching Hospitals NHS Foundation Trust, UK
- Nicola Kime, Leeds Beckett University, UK

#### ABSTRACT

**Background:** Adolescent patients (AP) with chronic health conditions (CHCs) often spend extended periods as inpatients, and contribute to medical education through clinician-led bedside teaching. There is little literature exploring AP perceptions of this role, but increasing recognition that young people should be involved in issues affecting them.

**Summary of Work:** Our aims were: to empower APs through participatory action research, to understand their perspectives on interactions with medical students, including acceptability, practicality and consent; to facilitate their input into the development of an adolescent consultation tool (ACT) to improve undergraduate medical students' AP consultation skills. We recruited 8 APs aged with CHCs (with appropriate ethical approval and consent) through purposive sampling. All had experience of repeated admissions and involvement with undergraduate medical teaching in the ward environment. Their experience and perceptions were explored through audio-recorded semi-structured interviews lasting 20-30 minutes in 2013.

**Summary of Results:** Successive interviews were conducted until data saturation was achieved. Interviews were recorded, transcribed and analysed by young adult researchers using a thematic analysis approach. The ACT was developed from five key interview themes identified: behaviours; communication and getting to know the patient as a person; respect; choice about student visits and empowerment and positive effect. Themes will be illustrated with quotations.

**Discussion and Conclusions:** The first three themes form the main ACT domains. The remaining two themes optimise the involvement of APs. Positive interactions are promoted by: preparation for the encounter; allowing patient choice; demonstrating respect; and using appropriate non-verbal and verbal communication skills. APs want to be involved in the medical education process: empowering them to do so can be profoundly positive both for them and for medical students.

**Take-home Messages:** A key message from our research is the desire for choice. APs want a say in who sees them, timing and location, and number of visits. We need to move the locus of control from the clinician teachers to the APs, so empowering them within the education process. Their wealth of experience can contribute to improved student education, better AP consultation skills, and improved patient care.

## #8H Short Communications - Patient as Educator 1

### 8H3 (1416)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 1.61-62, Level 1

### Seeing is believing: role of dermatology patient educators in undergraduate medical education

#### AUTHOR(S):

- **Maulina Sharma, University of Nottingham, UK (Presenter)**
- Matthew Scorer, University Hospitals of Derby & Burton NHS Foundation Trust, UK
- Ruth Murphy, University of Nottingham, UK
- Gillian Doody, University of Nottingham, UK

#### ABSTRACT

**Background:** Skin diseases are the 4th leading cause of non-fatal disability on a global level. Essential medical training in dermatology would help reduce the socio-economic burden of skin diseases through high quality care. In a specialty with significant visual and psychological impact, patient volunteers with skin diseases can play a valuable role as educators for medical student teaching.

**Summary of Work:** At our medical school, fourth year medical students undergo a 2 week dermatology attachment which includes 3 patient educator clinics. Students in groups of 3-4 rotate between four stations with volunteer patients. Students have 15-20 minutes per station to take a history, perform a physical examination, and discuss the impact of the condition on patient's quality of life. Skin conditions include core-curriculum learning outcomes and range from chronic conditions like eczema, psoriasis and vitiligo to treated skin cancers. Facilitation and formative assessment is provided by a postgraduate dermatology trainee or consultant. Students receive immediate feedback on history taking, physical examination and communication skills. Patient educators also provide student feedback on appropriate display of professionalism, indicating values and behaviours experienced from a patient perspective. Student reflection on assessing a patient with skin disease can also contribute to logbook portfolio assessment. The session is evaluated via an anonymised student feedback and a numeric rating scale for global assessment.

**Summary of Results:** Student feedback (n=203) has been found to be exceptional for patient educator sessions with mean score of 8.8/10 for the year 2017-18. Qualitative themes from student feedback included practising clinical and professional skills in a 'safe environment', exposure to a wide range of skin disorders, recognising physical signs, gaining insight on the psychological impact and stigma associated with skin disease, and standardisation of stations allowing for time-bound preparedness for summative clinical assessments.

**Discussion and Conclusions:** Patient educators in dermatology have been a valuable teaching resource for medical students. Students perceive the sessions to be helpful in developing their clinical reasoning skills. The shared experience of patient educators helps students reflect on the socio-economic and psychological impact of skin disease and how these may be addressed.

**Take-home Messages:** Patient educators in dermatology encourage development of a holistic approach to patient care amongst medical students.



## #8H Short Communications - Patient as Educator 1

### 8H4 (3055)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 1.61-62, Level 1

### Making a difference: practical insights from co-production with diverse patients and communities

#### AUTHOR(S):

- Sam Regan de Bere, Peninsula Medical School, UK (Presenter)
- Richard Ayres, Peninsula Medical School, UK

#### ABSTRACT

**Background:** Medical education literature highlights that diversity in patient and public representation (PPI) is a challenge that is rarely met in either education or research initiatives. Drawing on PPI evidence bases and our own research, we developed a pedagogy for co-production which recognises i) the requirement for different types and levels of engagement for different curriculum activities and learning outcomes ii) the importance of representation and ensuring diversity of patients and groups, and iii) the role of co-production in establishing ongoing evaluation and a rigorous evidence base.

**Summary of Work:** We used innovative methods to identify, recruit and work in partnership with a range of partners, including those with protected characteristics, hard-to-reach groups and vulnerable communities. We adopted a management model based on rhizomatic growth, whereby co-production does not conform to traditional linear or arboreal modes of project development, but rather accommodates the latent, unexpected and often serendipitous process of working together.

**Summary of Results:** Our work resulted in: i) replacing ad-hoc PPI with strategies and systems of co-production; ii) a move from classroom based activity to student experience of real patient pathways and wider health environments; iii) challenging silo-working in favour of multi-professional (health professions) and multi-agency (services/organisations) learning; iii) increased representation diverse health and lifestyle experiences in governance as well as teaching, iv) empowerment of all individuals involved, and v) appreciation of collaborative work with academic disciplines such as art, business and geography.

**Discussion and Conclusions:** In addition to experiential learning for the faculty, we witnessed some very practical benefits, not only to our students but also to patients and local communities. This included crucial learning and skills development to support complex capabilities for ensuring patient safety and quality improvement, dealing with complexity and uncertainty, safeguarding vulnerable patients, communication and interpersonal skills, and co-produced health promotion and illness prevention.

**Take-home Messages:** Co-production in medical education brings complexity to already dynamic systems, and partnership with diverse and hard to reach groups requires appropriately responsive faculty management. Our own experience continues to provide useful insights, strategies and techniques for those seeking to engage patients and communities in their own curricula and outreach programmes.

## #8H Short Communications - Patient as Educator 1

### 8H5 (2266)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 1.61-62, Level 1

### Patient educators lead and model social change - Youth facilitators teach students in the health professions about transition to adulthood for youth with childhood onset disabilities

#### AUTHOR(S):

- **Darlene Hubley, Holland Bloorview Kids Rehabilitation Hospital, Canada (Presenter)**
- Melissa Thorne, Holland Bloorview Kids Rehabilitation Hospital, Canada
- Desiree Da Costa, Holland Bloorview Kids Rehabilitation Hospital, Canada
- Dolly Menna-Dack, Holland Bloorview Kids Rehabilitation Hospital, Canada

#### ABSTRACT

**Background:** Holland Bloorview Kids Rehabilitation Hospital has an organizational strategy that aims to lead and model social change by including the insight of people with disabilities to guide clinical, research and educational activities. Building on a strong foundation of youth engagement, new leadership and employment opportunities at the hospital were created in the form of a youth facilitator role for youth with childhood onset disabilities. In addition to influencing clinical care and research the youth facilitators embraced the opportunity to create new curriculum for students in the health professions on the topic of transition for youth to adulthood within the health care system.

**Summary of Work:** Informative and interactive interprofessional education sessions, co-created and co-facilitated by the youth facilitators (patient educators) have been developed and are being offered in both clinical and academic settings. Youth facilitators and students share tips for relating and collaborating with youth and identify the skills that health care practitioners need to support youth at the time of transition. In addition to sharing their lived experience, the youth facilitators also talk about their role and express their dedication to helping other young people with disabilities.

**Summary of Results:** Program evaluation efforts will include learner perspectives on the interprofessional education activity through survey as well as impact of the curriculum development and delivery experience from the point of view of the patient educators (youth facilitators) and other key stakeholders (senior leaders and mentors) through interviewing.

**Discussion and Conclusions:** Patients are keen to share their lived experience and organizational strategy and resources can support an enhanced role of patient as educator. Success in the role can be enriched through mentorship and faculty development. Youth who embrace the patient as educator role can influence the next generation of health care providers.

**Take-home Messages:** Strong foundations of youth engagement aligned with a spirit of innovation, mentorship and faculty development can lead to success for youth in the patient as educator role creating an environment where students in the health professions have an opportunity to see youth with disabilities in a new role and value their expertise.

## #8H Short Communications - Patient as Educator 1

### 8H6 (1870)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 1.61-62, Level 1

### Patient feedback in patient-centered communication skills training for medical students

#### AUTHOR(S):

- Anne Marie Rieffestahl, CAMES - Copenhagen Academy for Medical Education and Simulation, Denmark (Presenter)
- Hanne O. Mogensen, University of Copenhagen, Denmark
- Susanne Reventlow, University of Copenhagen, Denmark
- Anne Mette Morcke, CAMES - Copenhagen Academy for Medical Education and Simulation, Denmark

#### ABSTRACT

**Background:** Face-to-face feedback in medical education has primarily focused on faculty and simulated patients as feedback sources. Patient feedback is increasingly recognized as an important aspect of medical students' training and formative assessment, but little is known about its role and impact. The aim of this study is to explore: 1) What patients with chronic conditions emphasize in their feedback to students, and 2) How students respond to this feedback and what impact it has on their development of skills in patient-centered communication.

**Summary of Work:** This qualitative study involved observation of a patient-centered communication skills course for medical students in their 4th year (of 6 years), and video-recordings of communication training sessions, including direct patient feedback. 21 patient-student encounters were video-recorded, and feedback sessions were transcribed. Emergent themes were identified through multiple readings and inductive coding.

**Summary of Results:** In their feedback, patients emphasize feelings of trust and security, as well as assessments of credibility. Patients express to students that they perceive communication as trustworthy when student doctors present some authority, assuring them that they can handle the patient's medical condition, but also listen and respond to the patient's concerns and challenges in everyday life. The students view feedback from patients as spontaneous, honest and authentic. However, they also express feelings of insecurity about their interactions and communication with patients due to the variable needs and preferences conveyed in their feedback. Overall, our preliminary results indicate that patient feedback is more complex than traditional feedback. This complexity presents a challenge, but also provides opportunities for reflection which support the development of patient-centered skills.

**Discussion and Conclusions:** Patient feedback in communication skills training generates awareness of the emotional complexity of patient-doctor communication. Patients with chronic conditions provide rich and authentic feedback by sharing emotional issues, related to long-term interactions with the healthcare system. Patients' diverse experiences and perspectives present a challenge to communication training, which can support the development of patient-centeredness.

**Take-home Messages:** Feedback from real patients in communication skills training provides the students with valuable perspectives, which can extend their learning and promote the acquisition of patient-centered communication skills.

## #81 Short Communications - Assessment - Work-Based Assessment

811 (398)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L2, Level 1

### Do Direct Observation Tools Generate High Quality Narrative Feedback? Lessons from the Psychopharmacotherapy-Structured Observation Tool

#### AUTHOR(S):

- John Young, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, USA (Presenter)
- Patricia O'Sullivan, UCSF School of Medicine, USA
- Rebekah Sugarman, Zucker School of Medicine at Hofstra/Northwell, USA
- Eric Holmboe, ACGME, USA

#### ABSTRACT

**Background:** Performance assessment based on direct observation has become increasingly important. While many direct observation tools include both rating scales and space for narrative comments, research has largely focused on the quantitative scores generated by the rating scales. Much less is known about the quality of the comments and their relationship to the quantitative scores. This presentation explores these questions via analysis of the comments from the Pharmacotherapy-Structured Clinical Observation (P-SCO) tool, a direct observation tool that facilitates assessment of a medication management visit.

**Summary of Work:** 601 P-SCOs were completed over four academic years in an outpatient psychiatry clinic. 25% of the completed P-SCOs from each academic year were randomly selected. To assess quality, comments were coded for valence (reinforcing or corrective), behavioral specificity, and content. To assess the relationship between comments and scores, the authors calculated the frequency with which a high or low checklist score was accompanied by a comment with the same content and valence as well as the frequency with which a reinforcing or corrective comment was accompanied by a high or low check-list score.

**Summary of Results:** 91% of the comments were behaviorally specific. 60% were reinforcing, 40% corrective. 8 themes were identified, including two constructs not adequately represented by the checklist. 7% of the low and high checklist scores were associated with a comment of the same valence and content. Only 50% of the overall comments were associated with a checklist score of the same valence and content.

**Discussion and Conclusions:** The P-SCO, as our exemplar, generated written comments that were based on direct observation, behaviorally specific, clinically relevant, with a balance of corrective and reinforcing feedback - all attributes associated with effective written assessment. Narrative comments both expanded on checklist scores and contributed new content.

**Take-home Messages:** A direct observation tool such as the P-SCO generates high quality written comments. Narrative comments complement the quantitative scores and should be included in direct observation tools. Moreover, thematic coding of comments can improve the content validity of a checklist and identify weakness in the curriculum.

## #81 Short Communications - Assessment - Work-Based Assessment

812 (1314)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L2, Level 1

### An Innovative and Comprehensive Workplace Based Assessment Framework for Australian General Practice

#### AUTHOR(S):

- Jill Benson, GPEx, Australia (Presenter)
- Lambert Schuwirth, Prideaux Centre for Research in Health Professionals Education, Australia
- Emily Kirkpatrick, GPEx, Australia
- Shaun Prentice, GPEx, Australia
- Taryn Elliott, GPEx, Australia

#### ABSTRACT

**Background:** Work-place based assessments (WBAs) are now accepted as useful and acceptable formative, summative and programmatic assessments in most medical education contexts. They aim to assess the peak of Miller's pyramid, that the trainee 'does' what they are expected to do in a safe and competent manner. But do they really achieve this?

**Summary of Work:** In order to answer this question, the Royal Australian College of General Practitioners funded a national Education Research Grant through GPEx, the South Australian General Practice (GP) training organisation, in collaboration with the Prideaux Centre at Flinders University, and the GP Training Organisations in every state of Australia. The GPEx team developed a multi-faceted research project consisting of: a 3-cycle hermeneutic literature review with 4 coders; focus groups and interviews with supervisors, registrars and medical educators in every state, on their opinions and experience of WBAs; data collection about how WBAs are performed in each state with analysis using a relational data-base management tool; and 3 nested research projects using quantitative and qualitative data collection on the use of Entrustable Professional Activities, Direct Observation Visits by clinical teachers, and the process of 'flagging' registrars with subsequent remediation, and whether this impacts on exam results.

**Summary of Results:** A WBA framework was developed from the research project, recommending the tools and activities that are more likely to be successful. This includes use in different General Practice contexts (eg rural and remote) and for a variety of purposes such as formative, summative, programmatic and remediation.

**Discussion and Conclusions:** Recommendations for implementation include: what, who, how, when, where of WBA tools; the training of the assessors and trainees; the support from the training organisation; the relationships between the assessor, the registrar, the tool and the training organisation; and the processes and systems that need to be in place.

**Take-home Messages:** This evidence-based, innovative and comprehensive WBA framework is not only relevant in Australian General Practice but has the flexibility to be applied across multiple contexts.



## #81 Short Communications - Assessment - Work-Based Assessment

813 (703)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L2, Level 1

### How students and specialists appreciate the Mini-Clinical Evaluation Exercise (Mini-CEX) in Indonesian clerkships

#### AUTHOR(S):

- Yoyo Suhoyo, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia (Presenter)

#### ABSTRACT

**Background:** Cultural differences might challenge the acceptance of the implementation of assessment formats that are developed in other countries. Acceptance of assessment formats is essential for its effectiveness; therefore, we explored the views of students and specialists on the practicability and impact on learning of these formats. This study was conducted to explore Indonesian students' and specialists' appreciation of the implementation of the Mini-Clinical Evaluation Exercise (Mini-CEX) in Indonesian clerkships.

**Summary of Work:** This study was conducted at the Universitas Gadjah Mada, Indonesia. Participants were 52 students and 21 specialists in neurology and 78 students and 50 specialists in internal medicine. They were asked to complete a 19-item questionnaire that covered the characteristics of the mini-CEX such as observation and feedback, its practicability, and the impact on learning and professional development. We used a Mann-Whitney U test to analyse the data.

**Summary of Results:** In total, 124 students (46 from neurology and 78 from internal medicine) and 38 specialists (13 from neurology and 25 from internal medicine) participated in this study. Students and specialists were positive about the practicability of the mini-CEX and the impact of this assessment format on learning and on professional development. The Mann-Whitney U test showed that there were no significant differences between students' and specialists' opinions on the mini-CEX, except for 2 items: specialists' appreciation of direct observation (mean rank=93.16) was statistically significantly higher than students' appreciation of it (mean rank=77.93;  $z=2.065$ ;  $p<0.05$ ), but students' appreciation of the item that students' past mini-CEX results affected their recent mini-CEX outcomes (mean rank=85.29) was significantly higher than specialists' appreciation of it (mean rank=69.12;  $z=2.140$ ;  $p<0.05$ ).

**Discussion and Conclusions:** Students and specialists were positive about the mini-CEX in Indonesian clerkships, although it was developed and validated in another culture. We found only small differences between their appreciations, which could be explained by the patterns of specialist-student interaction in Indonesian culture as large power distance and low individualism country.

**Take-home Messages:** Culture is not necessarily an obstacle when implementing educational principles stemming from countries with a different culture. We just need to take into account the characteristics of the local culture.

## #81 Short Communications - Assessment - Work-Based Assessment

814 (3303)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room L2, Level 1

### How do postgraduate surgeons-in-training learn through the use of workplace-based assessment?

#### AUTHOR(S):

- Arpan Tahim, UCL, UK (Presenter)
- Deborah Gill, UCL, UK
- Jeff Bezemer, UCL, UK

#### ABSTRACT

**Background:** Existing research on workplace-based assessment (WBA) in surgical education has focused on their outcomes (for example, how well a learner performs) and user perception (such as, how participants feel about it). There is limited understanding of what actually happens during WBAs and therefore no empirical basis for explaining either outcomes, users' perceptions, or their impact on learning. Recently it has been proposed that re-imagining WBA practices as intricate, real-time, social phenomena may be a more appropriate way to interpret these complicated interactions. Taking this socio-cultural view may help us understand the context, content and process of the WBA and help explore what use learners make of them in their education.

**Summary of Work:** This study explores the nature of workplace-based assessment in UK postgraduate surgical training, through a socio-cultural lens, in relation to the following questions; i) What does a WBA look like in situ, in the context of surgical education, ii) What does a surgeon-in-training identify has having learnt from a particular WBA, and iii) How do these learners respond to it in their future practice? Data was generated from a cohort of surgeons-in-training using video-recording of in situ WBA events, the learner's formal WBA reports, and through reflexive interviews conducted with the learner.

**Summary of Results:** Video-ethnographic and -reflexive techniques were used to explore the these workplace learning phenomena through a socio-cultural lens in order to examine the unique context, content, process and impact of these events.

**Discussion and Conclusions:** Viewing WBAs through a socio-cultural lens provides new understandings of their function as a surgical educational tool, which could improve their future use. More broadly, the complex learning needs that surgery shares with other professions should not go unrecognised. In fact, surgical education could represent an important 'telling case' to explore workplace learning and assessment in greater detail. Insights gained could improve education practice and shed light on the potential of assessment in the wider workplace.

**Take-home Messages:** WBAs are unique and individual experiences and may be better suited to interpretation through socio-cultural learning theories.

## #81 Short Communications - Assessment - Work-Based Assessment

815 (3403)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L2, Level 1

### Practical Strategies for Evaluating and Improving the Content of a Workplace-based Observational Assessment

#### AUTHOR(S):

- **Mark Raymond National Board of Medical Examiners, USA (Presenter)**
- Melissa Margolis, National Board of Medical Examiners, USA
- Brian Clauser, National Board of Medical Examiners, USA
- Marcia Winward, National Board of Medical Examiners, USA
- Alan Schwartz, UIC Department of Medical Education, USA
- Carol Carraccio, American Board of Pediatrics, USA
- Patricia Hicks, University of Pennsylvania, USA

#### ABSTRACT

**Background:** Observing and documenting the performance of medical trainees in the clinical workplace allows for collecting important evidence about competence in critical domains. Unfortunately, the resulting data often are subjective and unreliable because the instruments used to collect these behavioral data typically do not go through the robust development and revision process that is common for professionally developed tests. The present research addresses this problem by describing practical approaches that can be used to evaluate (and ultimately improve) the quality of observational assessment instruments.

**Summary of Work:** Three different observational assessment instruments were used to collect data on 258 first-year Pediatrics residents from 10 United States Pediatrics residency programs. A total of 2,591 instruments were completed by Faculty, Residents, Nurses, and other members of the healthcare team. Statistical (descriptive, correlational, and generalizability) analyses were used to evaluate item and instrument performance.

**Summary of Results:** Results indicated that (1) observers often did not use the full response scale; (2) some items did not perform well either because they were highly correlated with other items or had near zero correlations with other items; and (3) reliability varied considerably across observer groups (.76 for residents, .66 for faculty).

**Discussion and Conclusions:** The quality of an assessment instrument is directly related to confidence in the outcomes. This practical approach to instrument evaluation allowed for identification of items that did not perform well and informed revisions (i.e., scale changes, revision or deletion of items that were unrelated or too closely related to other items) that will improve instrument quality and by extension will increase confidence in the resulting data.

**Take-home Messages:** Data collected via observational assessment in the authentic clinical environment can provide important evidence about the competence of medical trainees. The present research demonstrates that relatively simple statistical procedures can be used to guide evaluation of item and instrument performance. This has the potential to substantially improve the reliability of scores from observational assessment instruments.

## #81 Short Communications - Assessment - Work-Based Assessment

816 (2329)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room L2, Level 1

### Who's Watching? Bedside Observation and Feedback Practices in Internal Medicine

#### AUTHOR(S):

- Michael Wang, McMaster University, Canada (Presenter)
- Kristyne Onizuka, McMaster University, Canada
- Christopher Foster, Western University, Canada
- Ramy Khalil, Queens University, Canada
- Daniel Brandt Vegas, McMaster University, Canada

#### ABSTRACT

**Background:** Opportunities to perform work-based assessments (WBAs) frequently occur during bedside teaching (BST). However, observation and feedback practices at the bedside are not well documented in the literature. Our objective was to assess the current use of bedside teaching, observation, and feedback during internal medicine rotations.

**Summary of Work:** We conducted a longitudinal survey study at five academic-affiliated hospitals associated with McMaster University. Medical students and residents completing inpatient internal medicine ward rotations between October 2017 and May 2018 were included. Survey items were constructed around three themes - bedside teaching, direct observation of bedside skills, and subsequent feedback. The survey encompassed bedside experiences over the past one week. We quantified the frequency of observation and feedback by the type of clinical skill, and utilized a 5-point Likert scale to measure the overall perceived quality of feedback.

**Summary of Results:** The response rate was 63% (n = 192/304). Learners received BST on 4 patients each week, and was often led predominantly by senior residents (43% of respondents). One-fifth of respondents reported receiving no BST, while a quarter reported receiving no direct observation. Bedside assessment of discharge planning and history taking occurred least frequently, with three-quarters of respondents (75% and 78%, respectively) reporting no observations. When observation of history taking and discharge planning occurred, feedback was provided to less than half of learners (44% and 42%, respectively). Attending physicians offered feedback more regularly than senior residents (p = 0.003), though there was no difference in its perceived quality.

**Discussion and Conclusions:** Direct observation at the bedside remains infrequent and inconsistently delivered. Ensuring routine feedback delivery after observation remains a challenge. Observation of history taking was particularly neglected, despite its importance in forming accurate diagnoses. Residents often led bedside teaching, and may provide a similar quality of feedback to learners compared to attending physicians.

**Take-home Messages:** Bedside observation and feedback remain under-utilized tools for learner assessment. Low rates of assessment were particularly noted for several core clinical skills, including history taking. Training programs transitioning towards CBME should focus on ensuring adequate opportunities for direct observation and feedback of these skills.

## #8J Short Communications - Faculty Development 1

8J1 (2817)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.31-32, Level 0

### Supervisor Training in a Global Arena: Increasing international access to high quality faculty development

#### AUTHOR(S):

- Veena Rodrigues, Norwich Medical School, UK (Presenter)
- Emily Player, Norwich Medical School, UK

#### ABSTRACT

**Background:** Within the UK, the General Medical Council (GMC) requires named supervisors of postgraduate medical trainees to be formally recognized and approved for this purpose. This has led to the development of a variety of face to face, online or blended learning programmes for supervisors in the UK. While such training programmes exist in high income countries, in many low-middle income countries, faculty development might not receive high priority. In Spring 2015, we developed a two-week, massive open online course (MOOC) on the FutureLearn platform aimed at postgraduate medical supervisors within the UK. The course focuses on two areas that supervisors find challenging - providing feedback effectively to learners, and identifying/managing the learner in difficulty.

**Summary of Work:** The initial course advertising led to several enquiries from non-medical healthcare professionals within the UK, as well as medical professionals outside the UK. In an effort to make this high quality learning available to a wider audience, the course educators reviewed the content and delivery, and tweaked it to make it relevant for these new audiences without detracting from the original vision.

**Summary of Results:** Of the 20,630 learners from over 140 countries registered for the course to date, 37% were from the UK. Of the remaining 63% the largest number were from USA, Canada, Australia, Mexico, the Middle East (Egypt, Saudi Arabia), Asia (India, Pakistan) and China. Learner feedback obtained via pre- and post-course surveys and course discussion boards indicated that the courses were attractive, easy to use, affordable and valued highly by the health professional learners irrespective of country, discipline, or medical specialty.

**Discussion and Conclusions:** We were able to extend the accessibility of a high quality MOOC to healthcare professionals within and outside the UK. Learners were able to interact with international peers and learn from each other in an engaging, inter-professional learning environment. The success of this course and learner demand led to the creation of three additional MOOCs for supervisors in 2017.

**Take-home Messages:** MOOCs can provide engaging faculty development without boundaries. Inter-professional and social learning are highly valued in an international setting.





## #8J Short Communications - Faculty Development 1

8J2 (2346)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.31-32, Level 0

### Tips and tricks of opening an AMEE International Networking Centre: Lessons to be learned

#### AUTHOR(S):

- Sofia Belogubova, Sechenov University, Russia (Presenter)
- Andrey Svistunov, Sechenov University, Russia
- Trevor Gibbs, AMEE
- Irina Markovina, Sechenov University, Russia
- Zalim Balkizov, GEOTAR-Media, Russia

#### ABSTRACT

**Background:** The quality of medical education is directly related to the quality of future healthcare. Throughout the globe, there is lack of standardisation of healthcare education and widespread inequality and inequity in faculty development.

**Summary of Work:** The Russian AMEE International Networking Centre of Medical Education was opened on May 15th 2018 in the Sechenov University, Moscow. The main goal of the Centre is to assist in continuous professional development of the faculty, and implement modern education and teaching methods, based upon a needs-led and context specific formulation of courses. Since opening, more than 70 faculty members from the Sechenov and other 15 partner-universities from all over Russia have taken part in specific courses. Evaluation has been positive, with faculty gaining and subsequently implementing newer methods of teaching and learning.

**Summary of Results:** To date we have learned 5 important steps within the office development - our A to E steps: 1. Assessing the learning environment: A suitable learning environment with adequate resources is essential to maintain high level learning. 2. Building an effective team-approach: Effective qualities within the team include leadership, delegation, self-discipline, proficiency in English, and be of a supportive nature. 3. Communicate with involved Institutions: The Networking Centre needs to be intrinsically connected to and work with Institutional boundaries as much as possible with effective communication involving purpose and outcomes, as well as being needs-led. 4. Define the priority areas for faculty development: Based upon context, country-specific and regional community needs, organised in a feasible manner. 5. Execute/Elucidate an agreed and shared future road map: Create a shared and clear vision for the future.

**Discussion and Conclusions:** As the expansion of scientific knowledge and the problem of information overload are that we faced up with, the needs to train students in how to learn more efficiently and faculty in how to teach more effectively becomes an essential component of any medical and healthcare school. Following these 5 steps you will ease the faculty development process.

**Take-home Messages:** These 5 essential steps will be expanded upon during the delivery of the paper.

## #8J Short Communications - Faculty Development 1

8J3 (1557)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.31-32, Level 0

### Perception of a blended course as a tool for continuous improvement: Experience of Private University San Juan Bautista from Peru

**AUTHOR(S):**

- Alberto Casas, Universidad Privada San Juan Bautista, Peru (Presenter)

**ABSTRACT**

**Background:** The Faculty of Health Sciences of the private university San Juan Bautista from Peru has six professional schools: Medicine, Psychology, Nursing, Medical Technology, Stomatology and Veterinary, and has three decentralized headquarters located in the cities of Lima, Chíncha and Ica. When performing the professor diagnosis 2017 areas for improvement were found, in order to provide professors with the appropriate tools to generate a training program that will feature the provision of courses in a blended mode using as a virtual platform Classroom and would be offered during the annual academic periods twice per year.

**Summary of Work:** This report evaluates the level of satisfaction of the course on research projects, scientific writing and essays, which reached an attendance of 156 professors (from different categories), among the six professional schools of the Faculty of Health sciences of decentralized locations. Of those registered, 106 fulfilled the requirements of approval of the course (attendance and obtain minimum approving note), which presented their integrative works, consisting in the analysis of the scientific article: 'Knowledge, attitudes, and practices on infection Control measures in Stomatology students in Lima, Peru', detailing the parts of the article, characteristics of good writing of an introduction, materials and methods, results and bibliography. Considering the problematic areas relating to the use of virtual platforms previously, a tutorial video was implemented created by the faculty, which explained in four simple steps the entrance to this virtual classroom as well as its management.

**Summary of Results:** The final survey showed us that 98.3% agreed with the content of the course, 99.1% found the trainer helpful, 91.8% found the support tools helpful and the level of satisfaction was 96.4%.

**Discussion and Conclusions:** The modality allowed the interaction between the expert trainer and the professors for the virtual forums and the consultations about the course and the integrating work. This experience motivates teachers to use virtual tools for future training and teaching.

**Take-home Messages:** The use of communication technologies provides a means for ongoing improvement for professors.

## #8J Short Communications - Faculty Development 1

8J4 (458)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.31-32, Level 0

### Pathways to Professional Excellence through a Digital Learning Hub

#### AUTHOR(S):

- Karen Hills, PAEA, USA (Presenter)
- Amanda Gunter, PAEA, USA
- Justine Mitchell, PAEA, USA
- Sara Fletcher, PAEA, USA

#### ABSTRACT

**Background:** This presentation describes an innovative digital learning hub based on a comprehensive faculty development plan. The hub was launched to PA program faculty at Physician Assistant Education Association's (PAEA) Education Forum held in October 2018 as part of PAEA's greater faculty development vision. The hub utilizes an interactive PAEA Learning website as the 'front door' to a host of curated materials geared toward the newest faculty member to longstanding experienced ones. It allows for learning communities to develop around specific content areas of interest and expertise as well as years of experience and faculty roles.

**Summary of Work:** Using a learning on demand system called Edcast, faculty can access resources that are organized into channels where each channel has multiple layers of content. Using a curriculum map as our guide, we've worked with LinkedIn Learning and other content providers to identify and map their content to our topics and educator competencies.

**Summary of Results:** As a result of the initial launch at Forum, 450 out of the 950 present faculty activated their accounts. As of early 2019, this number has risen to over 550 activated accounts. The most visited channels include assessment, clinical education, and 2018 Education Forum.

**Discussion and Conclusions:** Phase 1 of our launch has been successful. Phase 2 goals include ensuring professional learning communities are formed and that content is integrated with other Association programming. Phase 3 will integrate event registration for workshops, Forum, and regional education meetings. Faculty use of the portal lends itself to research initiatives and informs the work of the Association going forward. As the digital learning hub becomes more integrated into the work of PAEA, it will align with future efforts to build out a continuum of faculty development initiatives to support medical educators across the lifespan of their careers.

**Take-home Messages:** Technology can provide real-time faculty development to meet faculty professional development needs and enhance in-person connections with continued methods for sharing information. This model is replicable to others and provides a sound framework to build upon as professional requirements grow and change throughout one's professional career.

## #8J Short Communications - Faculty Development 1

8J5 (527)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.31-32, Level 0

### New Faculty Development Curriculum for Junior Faculty

#### AUTHOR(S):

- **Manjula Gowrishankar, Department of Pediatrics, Faculty of Medicine and Dentistry, University of Alberta, Canada (Presenter)**
- Mark Belletrutti, Department of Pediatrics, Faculty of Medicine and Dentistry, University of Alberta, Canada
- Michael Hawkes, Department of Pediatrics, Faculty of Medicine and Dentistry, University of Alberta, Canada
- Karen Forbes, Department of Pediatrics, Faculty of Medicine and Dentistry, University of Alberta, Canada
- Elizabeth Rosolowsky, Department of Pediatrics, Faculty of Medicine and Dentistry, University of Alberta, Canada
- Alvaro Osornio-Vargas, Department of Pediatrics, Faculty of Medicine and Dentistry, University of Alberta, Canada

#### ABSTRACT

**Background:** Assistant Professors (AP) face many challenges in achieving their career goals including timely promotion. They are expected to perform multiple tasks (clinical service, teaching, research, administration) for which they may be ill-prepared, yet the evaluations of these form the basis of their promotion. Also, they may be new to the environment, have incomplete understanding of policies/procedures that govern these evaluative methods and not have formed connections/network. They may be overwhelmed with day-to-day activities (patient care, electronic charting, etc) and changes in administrative policies and expectations.

**Summary of Work:** Our departmental faculty development committee conducted a needs-assessment survey of all (30) AP anonymously and also gathered information from the Chair and promotion committee. We developed a 20-month curriculum and provided it throughout 2 years as 2-hour workshops. Written feedback obtained at the end of each workshop facilitated ongoing curriculum updates.

**Summary of Results:** Survey response rate was 100%: 65% completed >85%, 10% <15% of the questions. As a result, we developed a curriculum covering teaching, research, clinical and administration as well as dossier and annual report preparation, mentorship, wellbeing and leadership-skills. We started with 29 registrants: 1 never attended, 3 moved and 3 promoted. During the first and second years, 6 and 7 new AP joined respectively. Attendance rate was 70-95%. Ratings ranged from 4.2-4.8/5. Narrative comments were highly positive and those who were promoted or anticipated promotion reported that this curriculum was beneficial. AP also reported that they developed collaborations and became familiar with each other and their work due to workshop participation.

**Discussion and Conclusions:** Our program is multifaceted and focused on as many aspects as possible for growth and development of AP at our institution. It is continuing to be well received and appears to be making a meaningful difference. Preliminary data suggests that our curriculum is assisting AP in achieving their career goals. Such curriculum needs to be delivered on an ongoing basis. Follow-up data will be collected to determine if this trend continues and translates into identifiable achievements.

**Take-home Messages:** AP in any institution will benefit from a well-planned and delivered faculty development curriculum. This requires institutional recognition of the need and champions to execute.

## #8J Short Communications - Faculty Development 1

**8J6** (2489)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 0.31-32, Level 0

### Teaching the teachers: A series of interactive teaching-themed workshops for healthcare experts

**AUTHOR(S):**

- Danielle Dobbe, LRCB (Dutch Expert Centre for Screening), the Netherlands (Presenter)

**ABSTRACT**

**Background:** The Dutch Expert Centre for Screening aims to improve breast cancer screening programs. Carrying out training programs that are effective in transferring the necessary knowledge and skills to screening personnel is crucial to achieve this goal. The healthcare experts of the Centre have extensive knowledge in their field of expertise, as is the case in many other knowledge centers, but they lack formal training on teaching skills and educational concepts. Training the trainers on these concepts holds the promise of improving their performance.

**Summary of Work:** Teaching Studios were introduced to offer the experts knowledge on educational concepts and teaching skills. These are two- to three-hour-long workshops, each one on a relevant theme, often requested by the participants. Examples of themes are: How to handle difficult groups, Presenting, and Flipped classroom. In a highly interactive and safe learning environment the participants are stimulated to reflect on their own experiences on teaching and learning. To demonstrate the practical effects of incorporating the previously taught concepts into their teaching responsibilities, a Teaching Studio can be devoted to redesigning one of the current courses. To gauge the effectiveness of the Studios, feedback from the participants and anonymous feedback surveys from attendees of the newly-designed courses were obtained.

**Summary of Results:** Since the introduction of the Teaching Studios 24 months ago, 13 courses were redesigned. Feedback from the participants showed that they have become more aware of teaching skills as an important factor in their educational responsibilities. As a secondary positive outcome, the Studio participants have become more interested in gaining knowledge on educational concepts and innovative teaching methods. Qualitative surveys from the attendees to the redesigned courses showed that they highly appreciate the changes that have been made.

**Discussion and Conclusions:** The Studio participants have gained more confidence in their approach to teaching, changing from content-centered to learning-based, during both designing and executing courses.

**Take-home Messages:** Teaching Studios, aimed at providing knowledge of educational concepts and teaching skills, improve the effectiveness of courses designed and taught by experts with teaching responsibilities who have no formal teaching training.



## #8K Short Communications – Continuing Professional Development 3: Recognising a Doctor's Competence

**8K1** (3208)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.14, Level 0

### The GMC revalidation knowledge test - summary of data

#### AUTHOR(S):

- Alison Sturrock, UCL Medical School, UK (Presenter)
- Asta Medisauskaite, UCL Medical School, UK
- Leila Mehdizadeh, UCL Medical School, UK
- Paul Crampton, UCL Medical School, UK

#### ABSTRACT

**Background:** In 2012, the GMC introduced revalidation to ensure all doctors met core standards on a five yearly basis. There are a number of doctors who wish to revalidate despite not having a designated body or responsible officer. To help provide evidence that these doctors have met core standards, these doctors are required to take a 'revalidation knowledge test' which is designed by UCL on behalf of the GMC. This test is composed of a 120 item single best answer paper and is available in 12 different specialties.

**Summary of Work:** Between November 2016 and January 2019, more than 200 doctors registered and paid to take this test however only 154 doctors actually sat the revalidation knowledge test. We will analyse the data in terms of sex, ethnicity, PMQ and age. We will also investigate what percentage of doctors that did not attend the examination remain on the register with a licence to practise.

**Summary of Results:** Previous data has shown that doctors aged 70 and above scored significantly lower than doctors who were younger than 60 and doctors who were 60-70 also performed significantly worse than younger doctors. There were also significant differences in test performance depending on where in the world a doctor had trained. There has also always been a high rate of doctors who register and pay for this assessment but do not attend on the day of the examination.

**Discussion and Conclusions:** We will update the data to include all doctors who have taken a revalidation knowledge test up to January 2019. As above we will analyse this in terms age, sex, PMQ, and ethnicity and specialty. We will also discuss the outcomes of the doctors who did not attend this assessment.

**Take-home Messages:** The GMC revalidation knowledge test is a novel assessment designed to help identify which doctors are fit to revalidate despite not having a designated body or responsible officer. This test has been shown to produce a range of scores that helps guide these decisions. The themes that appear to predict scores include age and place of medical qualification.

## #8K Short Communications – Continuing Professional Development 3: Recognising a Doctor's Competence

**8K2** (2663)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.14, Level 0

### Doctors' experiences, attitudes, and beliefs about the regulation of professional competence: a scoping review

#### AUTHOR(S):

- Anel Wiese, Medical Education Unit, University College Cork, Ireland (Presenter)
- Emer Galvin, Medical Education Unit, University College Cork, Ireland
- Irina Korotchkova, Medical Education Unit, University College Cork, Ireland
- Deirdre Bennett, Medical Education Unit, University College Cork, Ireland

#### ABSTRACT

**Background:** Programmes of regulation of professional competence (RPC) aim to support doctors in developing and maintaining good professional practice throughout their professional lives. Doctors' attitudes towards RPC, their beliefs about its objectives and effectiveness, and their experiences of trying to meet its requirements can impact meaningful engagement with this process. We conducted a scoping review to map the empirical literature in this area, to summarise the key findings and to identify gaps for future research.

**Summary of Work:** Scoping review is a method used to map the literature available on a topic comprehensively. Our review was informed by Arksey and O'Malley, and Levac's methodological frameworks (1, 2). Using relevant terms, we systematically searched electronic databases, RPC policy documents and reports, and used backward and forward citation tracking to identify empirical papers describing doctors' attitudes, beliefs and experiences of RPC. A data extraction tool was developed to record relevant information.

**Summary of Results:** We screened 4716 empirical papers and included 91 for review. Most of the literature was from the United Kingdom and the United States of America. We mapped how research on this topic was conducted in these jurisdictions. We also identified gaps in the literature relating to, for example, lack of representativeness of all medical specialties and their related scopes of practice when researching doctors' experiences, attitudes, and beliefs about RPC. The thematic analysis revealed themes relating to the barriers and facilitators to meaningful engagement with RPC, motivating factors for participation in RPC and the perceived impact of RPC on practice and learning.

**Discussion and Conclusions:** The results of this review will be of value to those tasked with the design and implementation of RPC programmes, helping them to maximise doctors' commitment and engagement, and to researchers, pointing to areas that would benefit from further enquiry.

**Take-home Messages:** Internationally existing RPC programmes are evolving, new programmes are being initiated, and many jurisdictions do not yet have programmes in place. This review offers an opportunity for learning across diverse programmes and from the experiences of established programmes.

## #8K Short Communications – Continuing Professional Development 3: Recognising a Doctor's Competence

8K3 (1992)

Date of Presentation: Tuesday, 27 August 2019

Time of Presentation: 1430-1445

Location of Presentation: Room 0.14, Level 0

### Doctors' attitudes to, beliefs about, experiences of, and suggested improvements for regulation of professional competence

#### AUTHOR(S):

- Emer Galvin, University College Cork, Ireland (Presenter)
- Anél Wiese, University College Cork, Ireland
- Janet O'Farrell, Irish Medical Council, Ireland
- Jantze Cotter, Irish Medical Council, Ireland
- Deirdre Bennett, University College Cork, Ireland

#### ABSTRACT

**Background:** In recent decades, regulation of professional competence (RPC) has been implemented internationally, with the aim of supporting doctors to maintain good professional practice, and enhancing patient safety and care. Despite these goals, it is a highly contested area. In Ireland, RPC was introduced in 2011. Engagement of doctors with the process has been challenging. There have been limited large scale studies of doctors' experiences and perceptions of RPC. Understanding the attitudes and experiences of doctors in regards to RPC is essential for those who oversee and operationalise the process, in order to enhance doctors' engagement and compliance. Hence, the study aimed to explore doctors' attitudes to, beliefs about, experiences of, and suggested improvements of RPC in Ireland.

**Summary of Work:** A questionnaire was specifically designed for this study. To map areas of relevance for inclusion in the questionnaire, a focus group was held with doctors to explore the topic. Piloting was undertaken, and following the necessary edits, the questionnaire was finalised. The survey comprised Likert-scaled items and free-text questions relating to the research question. A link to the survey was embedded in the Medical Council's 2018 annual retention of registration process for doctors (N = 13,093). The data was analysed using SPSS.

**Summary of Results:** 5379 doctors responded to the survey. The majority of participants believed that RPC encouraged them to reflect more on their professional development and continually learn and keep up to date. Despite these beliefs, participants identified important barriers to their participation in RPC including lack of protected time, expense, and dissatisfaction with the quality of CPD activities. Suggestions for improvement included the provision of online activities, quality improvement initiatives, and flexibility in the annual requirements.

**Discussion and Conclusions:** Findings from the study revealed some discrepancies between doctors' beliefs about the value of RPC and their compliance with the process. The study demonstrated that compliance cannot be interpreted as belief in the value of RPC and may mask negative attitudes and experiences.

**Take-home Messages:** By better understanding how these factors shape attitudes and behaviour towards RPC consideration can be given to solutions which can help to shift prevailing attitudes towards one that embraces competence assurance and lifelong learning.

## #8K Short Communications – Continuing Professional Development 3: Recognising a Doctor's Competence

**8K4** (2875)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.14, Level 0

### Attitudes, benefits and barriers to participating in mandatory continuing professional development scheme in doctors in Ireland

#### AUTHOR(S):

- **Holly Hanlon, Royal College of Physicians of Ireland, Ireland (Presenter)**
- Lucia Prihodova, Royal College of Physicians of Ireland, Ireland
- Thelma Russel, Royal College of Physicians of Ireland, Ireland
- Deirdre Donegan, Royal College of Physicians of Ireland, Ireland
- Ann O'Shaughnessy, Royal College of Physicians of Ireland, Ireland
- Hilary Hoey, Royal College of Physicians of Ireland, Ireland

#### ABSTRACT

**Background:** For doctors, a formal mandatory system of continuous professional development (CPD) in the form of Professional Competence Schemes (PCS) was introduced in Ireland in 2011, with Royal College of Physicians of Ireland (RCPI) as the largest PCS facilitator with 11 PCS schemes for over 4000 doctors. This study explored attitudes, perceived benefits and barriers to participation in PCS in order to improve CPD engagement in the future.

**Summary of Work:** 4350 doctors who registered in RCPI PCS in 2017/18 were invited to complete an anonymous online survey exploring their attitudes, perceived benefits and barriers in participating in PCS. Descriptive statistics and ANOVA were used to analyse the data.

**Summary of Results:** Of the 1408 (32% of participants) who responded (49.8% male, 50.2% female), 70% met all PCS requirements in 2017/18, 18% did not and a further 15% were new entrants to the scheme. Overall, 79.5% had positive views on participation in PCS, with those meeting requirements having significantly more positive attitude than the other two groups ( $F=18.15$ ,  $p<0.001$ ). The positive impact of PCS was reported predominantly in patient care related skills: patient care (81%), patient safety (81%), clinical skills (70.8%). The main challenges included difficulty accessing quality CPD activities (26%), fit between activities and formal PCS categories (24%), time to record (23.6%) and to attend (22.1%) CPD activities. Those who met PCS requirements reported significantly fewer barriers compared to both groups, however no differences were observed in terms of perceived benefits of PCS participation.

**Discussion and Conclusions:** The findings indicate that while doctors in Ireland value CPD and perceive various benefits from their participation, they also experience various barriers in meeting PCS requirement. This was particularly observed in doctors who have recently joined the PCS who did not meet their requirements. Nonetheless, all doctors attributed multiple benefits of taking part in PCS, especially in relation to improving patient care.

**Take-home Messages:** Doctors in Ireland view participation in mandatory CPD as positive and beneficial, however they also encounter multiple barriers, possibly preventing them of deriving full value from their CPD engagement.

## #8K Short Communications – Continuing Professional Development 3: Recognising a Doctor's Competence

8K5 (2064)

Date of Presentation: Tuesday, 27 August 2019

Time of Presentation: 1500-1515

Location of Presentation: Room 0.14, Level 0

### Examining associations between data utilization for practice improvement and lifelong learning

#### AUTHOR(S):

- Sanjeev Sockalingam, Centre for Addiction and Mental Health; University Health Network; University of Toronto, Canada (Presenter)
- Rebecca Charow, University Health Network, Canada
- Walter Tavares, University Health Network; University of Toronto, Canada
- Ivan Silver, Centre for Addiction and Mental Health; University of Toronto, Canada
- Craig Campbell, Royal College of Physicians and Surgeons of Canada, Canada
- David Wiljer, University Health Network; University of Toronto; Centre for Addiction and Mental Health, Canada

#### ABSTRACT

**Background:** Personalized performance data can inform the selection of educational strategies for advancing healthcare professional competence. However, performance data is not widely used to guide learning in practice, even when available. The purpose of this study was to what individual-level factors influence clinician engagement with clinical data for continued professional development (CPD) purposes to drive practice change.

**Summary of Work:** An iteratively developed and field-tested survey was distributed to General Surgeons (GS), Radiation Oncologists (RO), and Psychiatrists (Psy) through their respective national societies' via email and annual conferences in 2017. The survey domains included physicians' practice context, orientation to CPD using the Jefferson Scale for Lifelong Learning (JeffSPLL) and data use for learning. Linear regression was used to model the relationship between the outcome variable frequency of data use and independent predictors of continuous learning to improving practice.

**Summary of Results:** A total of 305 practicing physicians (GS=49, RO=53 and Psy=203) participated in this study. Most respondents used data for practice improvement (n=177, 61.7%; GS=27, 9.4%; RO=35; 12.2%; Psy=115, 40.1%) and had high orientation to lifelong learning (JeffSPLL mean scores: GS=45.1; RO=43.5; Psy=47.4, Max=56). Linear regression analysis identified significant predictors of data use in practice being: frequency of assessing learning needs, helpfulness of data to improve practice, and frequency to develop learning plans. Together, these predictors explained 42.9% of the variance in physician's orientation towards to integrating accessible data into practice ( $r^2=0.429$ ,  $p<0.001$ ).

**Discussion and Conclusions:** This study illustrates that the greater perceived utility of data in practice and reflection on learning needs is associated with higher practice data use. Orientation to lifelong learning was not a significant predictor of data use. The results underscore the importance of understanding system level and organizational culture in influencing data-informed learning in practice. The results will be situated in a phase two qualitative analysis to explore these trends in more depth.

**Take-home Messages:** Despite the value of performance data for structuring CPD, orientation to lifelong learning does not sufficiently explain health professionals' inclination towards data-related LLL activities. Identifying barriers at the organizational and system levels are important to inform data-driven CPD.



## #8L Short Communications - Virtual Patients

### 8L1 (656)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L7, Level 1

### Flexible interprofessional learning using virtual patients

#### AUTHOR(S):

- Samuel Edelbring, Örebro universitet, Sweden (Presenter)
- Susanna Sandelius, Karolinska Institutet, Sweden
- Jessica Norberg, Karolinska University Hospital, Sweden
- Eva Broberger, Karolinska Institutet, Sweden
- Desiree Wiegand Edström, Örebro university, Sweden

#### ABSTRACT

**Background:** The undergraduate education should prepare for collaborative competence and understandings of different perspectives on patient care. However, interprofessional education (IPE) faces challenges in organizing common learning activities for students from different study programs due to different schedules and campuses. Virtual patients (VPs) can supplement to IPE strategies in providing flexible learning activities. Yet, there is little knowledge on using VPs in IPE settings.

**Summary of Work:** Four VPs were used by second year nursing and third year medical students who joined in a common interprofessional assignment in pairs or triads. The students' perceptions of authenticity, relevance and levels of medical, nursing and patient perspectives was measured on a five-graded rating scale. The content of the collaborative assignment texts was analyzed (n=23 groups from the second cohort).

**Summary of Results:** Eighty-six percent met online and 14% face-to-face for the collaborative assignment (n=201 in two consecutive cohorts/terms). The reason for online meetings were mostly flexibility. Many expressed, however, a preference for an organized physical meeting. Eighty-nine percent of the students perceived the VPs as being authentic and 79% as relevant for their studies. The medical perspective was more salient than the nursing perspective in the VPs. The patient perspective was perceived higher in nursing students (median 4) than medical students (median 3, p=0.001). The strongest interprofessional aspect in reflective texts was roles and responsibilities reflecting an increased understanding of each other's roles and perspectives. There were many reactions on how the VP activity was integrated in relation to the course content and schedule.

**Discussion and Conclusions:** Students' mixed reactions towards self-regulated IPL activity reveals that there is potential in using VPs in conjunction to a self-regulated IPL meeting. The VPs themselves functioned well, and it was feasible for students to meet online. However, the benefit depends largely on how questions are designed for students to discuss and how the alignment to other course content is perceived.

**Take-home Messages:** Virtual patients present potential for meaningful interprofessional education activities. An online IPE encounter need a structured framework and VPs need to align to intended learning outcomes and other course content.

## #8L Short Communications - Virtual Patients

### 8L2 (689)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L7, Level 1

### The role of epistemic activities on diagnostic outcomes in medical students' learning with two different virtual patient case formats

#### AUTHOR(S):

- Pablo Schäffner, Institut für Didaktik und Ausbildungsforschung in der Medizin am Klinikum der LMU München, Germany (Presenter)
- Elisabeth Bauer, Lehrstuhl für Empirische Pädagogik und Pädagogische Psychologie an der LMU München, Germany
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- Martin Fischer, Institut für Didaktik und Ausbildungsforschung in der Medizin am Klinikum der LMU München, Germany
- Jan Kiesewetter, Institut für Didaktik und Ausbildungsforschung in der Medizin am Klinikum der LMU München, Germany

#### ABSTRACT

**Background:** Development of medical students' clinical reasoning is a key task for medical schools. Virtual patients (VPs) have been found to help students learn. During the diagnostic process, students are often asked to reflect upon their reasoning. Thus far, the relationship of these reflections with the diagnostic outcomes has not been investigated. Recently, epistemic activities have been proposed as a way to investigate reasoning processes. In our study we investigated which epistemic activities are crucial for diagnostic outcomes in VPs.

**Summary of Work:** In our study N =142 medical students worked on eight VPs in two VP case formats (whole case N=71 and serial-cue N=71). After entering a final diagnosis they were asked to provide a reflection on their clinical reasoning. In a stepwise multivariate multiple regression, the coded EAs were used to explain variance in diagnostic accuracy (correct/incorrect diagnosis), time-on-task (first information until submission of diagnosis), knowledge gain (difference between pre- and posttest of a key-feature test).

**Summary of Results:** Regression showed that drawing conclusions was significantly related to diagnostic accuracy ( $p=.02$ ;  $B=.21$ ;  $\eta^2=.04$ ). Further, regression showed a significant interaction between the serial-cue VP case format and drawing conclusions ( $p=.016$ ,  $B=-.03$ ,  $\eta^2=.04$ ). For the time-on-task serial-cue VP case format and hypothesis generation interacted significantly ( $p=.04$ ,  $B=-69.1$ ,  $\eta^2=.03$ ). We found no significant relationships of evidence generation(EG) and evidence evaluation(EE) on diagnostic outcomes.

**Discussion and Conclusions:** With the current study we found that indeed students' clinical reasoning processes relate to diagnostic outcomes. Especially, drawing conclusions seems to have an impact on diagnostic accuracy. Yet, the correlation is negative, so the fewer conclusions were drawn, the more often they were associated with the correct diagnoses. Further, other EAs were not related to the diagnostic outcomes. Both these findings might indicate that the structuring of VPs in learning environments can also have an adverse effect on intuitive reasoning.

**Take-home Messages:** 1. Drawing conclusions is the central EA for diagnostic accuracy; 2. EE and EG seem to perform a minor role; 3. Time-on-task serial-cue VP case format and hypothesis generation interacted significantly; 4. VP formats play an important role for the reflection processes.

## #8L Short Communications - Virtual Patients

### 8L3 (2107)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L7, Level 1

### Students' interaction and learning when working with an interprofessional virtual patient model in primary healthcare

#### AUTHOR(S):

- Carrie Tran, Karolinska Institutet, Sweden (Presenter)
- Helena Salminen, Karolinska Institutet, Sweden
- Eva Toth-Pal, Karolinska Institutet, Sweden
- Solvig Ekblad, Karolinska Institutet, Sweden
- Uno Fors, Stockholm University, Sweden
- Päivi Kaila, Karolinska Institutet, Sweden

#### ABSTRACT

**Background:** The interprofessional Virtual Patient (VP) model consists of a repeated four-stage learning cycle (didactic inventory, concrete experience, teacher's comments and reflection/clinical reasoning). A description of the VP model has been presented previously. The aim of the present study was to investigate students' interactions in each learning cycle when working with the interprofessional VP model.

**Summary of Work:** A total of 38 students were video-recorded in ten sessions when working with the interprofessional VP model. There were 2-5 students in each group from two to four different study programmes. Each group was interviewed after the test session.

**Summary of Results:** Preliminary findings show that the VP model increased interaction between the students in each learning cycle. In didactic inventory the students had to formulate their own learning goals, but they also discussed verbally their previous experiences about collaboration with different health professions spontaneously. After watching the short videos (the concrete experience cycle) they also asked each other specific questions on issues belonging to the other professions in the virtual patient case. In the next cycle the students discussed the teachers' comments (preformulated) from their own professions' perspectives. The students were asked to reflect on the collaboration between different professions before and after each short video. The students found the reflections and discussions to contribute most to their learning.

**Discussion and Conclusions:** The students appreciated the short videos and found them illustrative and inspiring. They read comments and other important information which made a base for their discussions. This kind of learning activities may result in greater retention of the new knowledge as it was acquired with many different methods such as interactive interprofessional discussions, formulating own learning goals and watching film clips and getting feedback from the teachers' comments. Conclusions The VP model seemed to be a good facilitator for interaction between students from different study programmes and can be a suitable tool to enhance learning in interprofessional education.

**Take-home Messages:** An interprofessional VP model may contribute to prepare students for future teamwork and collaboration after graduation, which need to be studied in more details and during long term in the future.

## #8L Short Communications - Virtual Patients

### 8L4 (1715)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room L7, Level 1

### Feasibility and utility of an immersive 360-video simulation of stressful clinical events to enhance self-efficacy

#### AUTHOR(S):

- Steve Gallagher, Dunedin School of Medicine, University of Otago, New Zealand (Presenter)
- Shakeel Mohammed, Dunedin School of Medicine, University of Otago, New Zealand
- Phil Blyth, Otago Medical School, University of Otago, New Zealand
- Tehmina Gladman, University of Otago, New Zealand

#### ABSTRACT

**Background:** Medical students and early-career doctors are trained to deal with stressful clinical events, such as managing a deteriorating patient, but typically have low self-efficacy for these situations. Previous research has demonstrated that high-fidelity simulation and virtual world training environments that elicit a sense of presence in the virtual environment can influence both knowledge and confidence to manage these events, but financial and logistic challenges can limit access to these opportunities. Immersive 360 video provides an opportunity to produce high-fidelity virtual simulations at reduced cost, but research assessing the feasibility of this approach and its impact on cognitive factors that influence performance such as stress and self-efficacy is limited.

**Summary of Work:** We assessed the feasibility of developing 360 video-based simulation of a stressful clinical event as an education tool for senior medical students. With input from emergency medicine clinicians, we considered a number of possible clinical scenarios, and ultimately developed a scenario in which a patient unexpectedly suffers a seizure while in hospital, while under the observation of the participant. The scenario was filmed and developed into an interactive branching scenario using game development software by a novice developer, and a short self-efficacy measure was developed and piloted.

**Summary of Results:** Over a 10-week period, we were able to develop and pilot a VR simulation. The final simulation was piloted with a small group of senior medical students using an HTC-Vive VR headset. Preliminary data suggests that participants experience a sense of presence and heightened emotions during the simulation, and that self-efficacy can be influenced by the experience.

**Discussion and Conclusions:** Initial results justify further research in this area. In particular, a more thorough investigation of the specific impact on self-efficacy, and how simulations can be developed to promote self-efficacy for clinical emergencies is warranted.

**Take-home Messages:** We demonstrated that it is feasible to rapidly produce a short, interactive VR scenario using 360-video with a small in-house team at low cost, and that this approach has value in simulation-based medical education.

## #8L Short Communications - Virtual Patients

### 8L5 (2036)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L7, Level 1

### New insights into analysing virtual patient data

#### AUTHOR(S):

- Tomi Ylä-Soininmäki, University of Helsinki, Finland (Presenter)
- Tuomas Lumikari, University of Helsinki, Finland
- Eeva Pyörälä, University of Helsinki, Finland

#### ABSTRACT

**Background:** Growing literature refers that virtual patients (VPs) provide a learning resource to develop students' clinical reasoning. Clinical reasoning refers to the ability to critically analyse patient's symptoms, signs, laboratory results and imaging to determine a diagnosis and appropriate treatment (Eva 2004). In 2018, a virtual patient application was developed by two medical students to stimulate the students' self-directed learning. The aim of this study was to analyze the VP data to obtain detailed information about how the students' clinical reasoning procedure advanced.

**Summary of Work:** We used the data collected among voluntary fifth year medical students using the VP application in 2018. They interviewed and examined VPs, ordered tests, defined diagnoses using ICD-10 and prescribed treatment accordingly. We analysed and visualized how the students performed the most important tasks (e.g. asking the relevant questions, ordering the relevant lab tests) in three VP scenarios to identify homogenous patterns solving the VP cases.

**Summary of Results:** In 2018, 40 out of 60 students participated in the study. Their ages ranged between 23 and 32 and they had 2-7 months of clinical working-life experience. The symptoms of diabetic ketoacidosis were rapidly recognised and the most relevant tasks chosen throughout the process. In the Kawasaki disease, the diagnostic process started hesitantly but after recognising key signs, an increasingly bigger portion of performed tasks were relevant. The scabies scenario was straightforward and rapidly solved, but many students made several irrelevant actions. On further analysis, we found that the key action correlating with the correct diagnosis on Kawasaki disease scenario was ordering 'erythrocyte sedimenting rate', with ordering-rate of 11/13 vs 0/6 ( $p=0.001$ ) on those who got the correct vs incorrect diagnosis respectively.

**Discussion and Conclusions:** The analysis and visualization of the students' choices were used to recognize the patterns of students' diagnostic approach in different scenarios. This information helps improve the VP scenarios and find the right focus in teaching and learning clinical reasoning.

**Take-home Messages:** The detailed analysis of the VP data provides important information for developing teaching and learning clinical skills and improving the VP scenarios.



## #8L Short Communications - Virtual Patients

### 8L6 (2764)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room L7, Level 1

### Role of Faculty Revisited in the Era of AI driven Teaching and Learning

#### AUTHOR(S):

- Smriti Pathak, Imperial College London, UK (Presenter)
- Redante Mendoza, Nanyang Technological University, Singapore
- Paul Gagnon, Nanyang Technological University, Singapore
- Nabil Zary, Mohammed Bin Rashid University of Medicine and Health Sciences, UAE

#### ABSTRACT

**Background:** We each learn differently. Traditionally, medical educators in university faculty have been focussed on what we teach (curriculum content) versus how we teach (curriculum delivery). The latter has become relevant with the fast-paced expansion of data (patient variables and scientific knowledge) and thus the need for doctors who are critical thinkers capable of interpreting large datasets. In clinical practice, 'the see one, do one' dictum involves applying learnt concepts in real life but this is often constrained by patient needs, time pressures and group teaching. Hence, the personalisation of medical education in the form of Artificial Intelligence (AI) assisted Digital Virtual Patients (DVP) promises the learner experiential clinical learning outside of the classroom; and offers faculty opportunities to monitor and interrogate the developing critical thinking of learners prior to contact with real-life patients.

**Summary of Work:** The development of the DVP has involved partnering of a faculty content expert with data scientists to construct domain intuitive structuring of clinical assessment in a way that develops clinical reasoning in real-life scenarios with cross-cutting themes.

**Summary of Results:** The roles of the faculty include: 1) guidance on diverse cases to engage students; 2) construction of cases to aid in the organisation of concept maps across curriculum themes; 3) identification of crucial time points to interrogate student decision-making along the clinical reasoning pathway; 4) creation of reusable models that can be employed by data scientists; and 5) prediction models of student feedback which can then be built on by AI and iteratively honed using student answers.

**Discussion and Conclusions:** Faculty-data scientist partnership requires clarity of mission and formulation of DVP approaches prior to the integration of AI. Future challenges include how best to: 1) pitch case complexity appropriate to individual learner profiles; and 2) assess, feedback and amend the course maps of both expert and novice students.

**Take-home Messages:** Faculty engagement with data scientists in the construction of DVPs enables a self-directed learning platform to bridge the gap between biomedical science and clinical practice. In turn, this aids the development of deeper learning, pattern recognition and problem-solving skills essential to future healthcare team-leaders.

## #8M Short Communications - Student Wellbeing

### 8M1 (215)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.94-95, Level 0

### Re-envisioning Exams: NBME's Effort on Wellness (RENEW) project

#### AUTHOR(S):

- **Miguel Paniagua, National Board of Medical Examiners (NBME), USA (Presenter)**
- Liselotte Dyrbye, Mayo Clinic, USA
- Karen Hauer, University of California at San Francisco, USA
- Steve Lieberman, University of Arizona, USA
- Hanin Rashid, Robert Wood Johnson Medical School, Rutgers University, USA
- Kimberly Templeton, University of Kansas, USA

#### ABSTRACT

**Background:** Burnout starts in medical school and persists through all levels of training. In the U.S. and elsewhere, it may be more the rule than the exception and affects physician health and therefore patient care. The solutions to date focus on coping with rigors rather than affecting systematic change and predictive models of burnout have yet to be fully developed, particularly related to high-stakes medical school examinations. Despite its explicitly-stated purpose as a minimum competency licensure examination, the 3-digit score for the USMLE clinical knowledge examinations, particularly step 1 are widely-utilized by graduate medical education programs in the U.S. to screen and rank applicants for residency positions, a reported significant stressor for medical students.

**Summary of Work:** The NBME seeks to understand the role high-stakes exams such as United States Licensing Examination (USMLE) play in affecting medical student wellness. Alongside other U.S. healthcare professional organizations that are also currently addressing this issue, we hope to contribute to a better functioning healthcare system. We convened a summit of leaders in the field and from the house of medicine to develop and execute a research agenda, whose preliminary results will be presented.

**Summary of Results:** From a deliberative process, U.S. experts prioritized four of nine research questions: What is the relationship between student well-being and examination performance? How do self-care activities relate to stress and examination performance? What contributes to stress among medical students, and what strategies do students use to mitigate stress? What is relationship between perceptions of USMLE's purpose and meaning students attach to USMLE and student wellness Study design, sources of data and subsequent findings will be presented.

**Discussion and Conclusions:** From this research and expert engagement, we have developed an action plan that we believe will inform policy, research and development. Preliminary research results will be presented.

**Take-home Messages:** By partnering with collaborating U.S. organizations and expert faculty to conduct research and produce meaningful scholarship, we have begun to enlist support for actionable interventions that might promote wellness amongst learners and trainees in the context of high stakes exams in the United States.

## #8M Short Communications - Student Wellbeing

### 8M2 (1271)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.94-95, Level 0

### Academic Environment and Mindfulness Interventions predict Wellness among Medical Students

#### AUTHOR(S):

- Hector Eduardo Velasco, Touro University California, USA (Presenter)
- Athena Lin, Touro University California, USA
- Yasmin Bains, Touro University California, USA

#### ABSTRACT

**Background:** Medical education and practice may lead to unhealthy behaviors and attitudes that may result in poor academic performance and early and future professional burnout among medical students and practitioners. Touro University College of Osteopathic Medicine (TUCOM) developed the Wellness, Academic Achievement, Resilience and Mindfulness program (WARM) to improve student wellness and academic performance and address the current medical burnout trends.

**Summary of Work:** WARM includes four assessment instruments; namely: 1) Health-Promoting Lifestyle Profile II; 2) Johns Hopkins Learning Environment Scale; 3) Perceived Stress Scale; and 4) Five Facet Mindfulness Questionnaire. Data were collected anonymously during 2016 and 2017 using surveys implemented in Qualtrics among first and second year medical students. Data analyses were conducted using Stata V15 using the Mann-Whitney test to assess differences in WARM scores. Also, we conducted multivariable linear regression to assess Stress, Mindfulness and Academic environment as predictors of Wellness. Statistical significance was set at  $p \leq 0.05$ . This project received institutional IRB approval.

**Summary of Results:** Response rates were between 50% and 60% for each cohort. Baseline results were obtained using descriptive statistics for future comparisons. There were no statistically differences in WARM scores between first and second year students. Multivariable linear regression showed that student Wellness was predicted by Academic Environment ( $\beta = 0.73$ , 95% CI 0.58, 0.88) and Mindfulness ( $\beta = 0.64$ , 95% CI 0.34, 0.94) scores.

**Discussion and Conclusions:** After two years of implementation of WARM, there are no differences in WARM scores between first and second year students and first year students do not show statistically significant improved scores as second years. However, Wellness scores were significantly predicted by Academic Environment and Mindfulness, which can be used to inform curricular strategies aiming at improving Wellness among medical students.

**Take-home Messages:** Improvement of academic environment, including curricular strategies, study methods, mentoring, student satisfaction and faculty development are all part of a comprehensive approach to medical student Wellness, which is key to academic performance. Implementing these strategies early in the curriculum and overall management of the medical academic program to enhance the student experience should help develop burnout-prevention skills among future graduate and practitioners.

## #8M Short Communications - Student Wellbeing

### 8M3 (1787)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.94-95, Level 0

### Comparison of face-to-face and online mindfulness interventions among healthcare professional students in Finland: A randomized controlled trial

#### AUTHOR(S):

- Saara Repo, University of Helsinki, Faculty of Medicine, Finland (Presenter)
- Marko Elovainio, University of Helsinki, Faculty of Medicine, Finland
- Eeva Pyörälä, University of Helsinki, Faculty of Medicine, Finland
- Marianne Holopainen, University of Helsinki, Faculty of Medicine, Finland
- Panajiot Räsänen, University of Jyväskylä, Finland
- Tiina Paunio, University of Helsinki, Faculty of Medicine, Finland

#### ABSTRACT

**Background:** Previous studies have shown that both face-to-face and online mindfulness training reduces stress and enhances well-being in undergraduate students (Galante et al. 2018, Spijkerman et al. 2015). The evidence concerning the effectiveness of mindfulness interventions among medical students is mixed. The aim of this study was to test whether two types of mindfulness interventions, face-to-face training and internet-based training could enhance the students' well-being.

**Summary of Work:** A randomized controlled trial in undergraduate students was conducted at the University of Helsinki. We divided the voluntary students into three groups 1) control group (n=40), 2) face-to-face training group (n=40) and 3) internet-based training group (n=22). The potential well-being outcomes were measured three times, at the baseline, post-intervention and after a four months follow-up using the CORE-OM34 and its five domains (well-being, symptoms, functioning, risk, non-risk). The study protocol was registered in ClinicalTrials.gov.

**Summary of Results:** We recruited 102 students (74 female, 26 male and two other) from all the five study programmes of the faculty. In the baseline, 28 % of the participants experienced quite a lot or a lot of stress. Eight-week interventions were conducted in October and November in 2018. In the face-to-face group 95 % and the internet-based group 81 % completed the course. Nearly all (97%) of the face-to-face group and the internet-based group (93%) would recommend the course for others. The longer term effect will be examined by comparing the CORE-OM34 results after the intervention and in a follow up after four months (April 2019).

**Discussion and Conclusions:** Participants were very committed to both interventions and experienced them useful. Our study-design contains not only immediate but also the follow-up outcomes of the intervention. Based on these results, the Faculty will decide whether the students will be offered mindfulness courses in future and what type of training would be the most suitable.

**Take-home Messages:** Stress levels among the students of healthcare professions are high. Our intervention study on the two types of mindfulness courses provides valuable information for those who are at the outset of developing stress management training for students.

## #8M Short Communications - Student Wellbeing

### 8M4 (428)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.94-95, Level 0

### Support cell for medical students

#### AUTHOR(S):

- Myriam Dergham, Faculté de Médecine Jacques Lisfranc - Saint Priest en Jarez, France (Presenter)
- Catherine Massoubre, Faculty of Medicine Jacques Lisfranc, France

#### ABSTRACT

**Background:** The psycho-social risks of medical students have been the subject of national and international studies, which have highlighted several risk factors. In 2016, a questionnaire on the mental health of young people and future doctors showed that 66.2% of young and future doctors suffered from anxiety - compared to 26.1% in the general population; 27.7% were depressed - compared to 10.1%; and 23.7% have suicidal thoughts - compared to 4% of young people aged 20-30. Besides, 738 respondents had reportedly already attempted suicide.

**Summary of Work:** To respond concretely to these alarming figures, the Faculty of Medicine of Saint Etienne chose to react by creating a support cell. The support cell was opened in January 2017, initiated by Professor Catherine Massoubre, hospital practitioner of psychiatry and pedagogy assessor at the Medicine Faculty of Saint-Etienne. The cell, composed of three professors, is open to all students in the Faculty of Medicine. Students can directly request an appointment, via an e-mail address, managed by the three professors. Each request is confidential. The students can also be referred to the cell by the teachers or doctors they work with. The aim is to guide the student towards the structures that can best help them: psychiatrist, psychologist, addiction centre, social worker, etc. When the problem concerns the practice at the hospital, the head of the department or unit can be contacted.

**Summary of Results:** More than 8% of the students have already used the cell, from the first year to the end of their internship.

**Discussion and Conclusions:** This support cell is widely used. It shows that it is essential to have such a structure, although, the support cell is time consuming for the people who manage it. Other means of help exist: in Limoges, Tours and Paris, a teacher-student interface office has been set up ; in Amiens, an association for student mental health has been created.

**Take-home Messages:** Many students suffer from anxiety disorders, moreover, some of them have suicidal thoughts. The results show that it was a necessity to create such a structure, all French medical schools should to set up a support cell to help the students along their studies.



## #8M Short Communications - Student Wellbeing

### 8M5 (925)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.94-95, Level 0

### Perception of self-medication among medical students in Saint-Etienne: quantitative study by self-questionnaire

#### AUTHOR(S):

- Sébastien Bruel, Department of General Practice, Jean Monnet University, St Etienne, France (Presenter)
- Sophie Tissot, Department of General Practice, Jean Monnet University, France
- Jean Noël Bally, Department of General Practice, Jean Monnet University, France

#### ABSTRACT

**Background:** Self-medication is a widespread practice in our society, leading to autonomous health management. According to an IPSOS study in 2015, 91% of French people felt able to manage simple health problems. This phenomenon has been poorly studied among medical students. The objective was to study the point of view of Saint-Etienne medical students on self-medication through the acquisition of medical knowledge and the right to prescribe.

**Summary of Work:** A cross-sectional, monocentric, descriptive, self-administered, anonymous observational study was conducted from March 9, 2018 to May 2, 2018 with 1382 Saint-Etienne medical students from the 2nd year of medical school to the last year of residency. For this study, paracetamol, ibuprofen, homeopathy and herbal medicine were arbitrarily excluded.

**Summary of Results:** The participation rate was 40.7% or 563 usable responses. The mean age was 24.1 years (standard deviation = 3.4) with 65.5% of women. The self-medication rate was 79.8% for all promotions combined and was higher among residents than among medical students from the 2nd year to the 6th year of medical school:  $p < 0.001$ . While almost all participants thought that self-medication in the general population was a risky practice (93%), they considered their own self-medication responsible (90.4%). The main reason for self-medication given by residents was sufficient medical knowledge, while medical students mainly mentioned lack of time. The perception of health care management among self-medicated participants was identical to worse than the general population, while participants who did not practice self-medication perceived their health care as identical to better ( $p = 0.037$ ). Almost half of the respondents who described their care as less good were residents at the end of their residency. The majority of respondents were opposed to the prohibition of self-prescribing (88.2%): self-medicated participants were more opposed than others (OR = 2.94; IC95 = 1.83-4.73).

**Discussion and Conclusions:** Faced with the self-medication of medical students, the question of a greater involvement of occupational medicine as well as academic medicine arises.

**Take-home Messages:** The self-medication rate was 79.8%. Participants thought that self-medication was responsible. Almost half of the respondents who described their care as less good were residents at the end of their residency.

## #8M Short Communications - Student Wellbeing

### 8M6 (3342)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 0.94-95, Level 0

### An innovative model for mental health care and educational support in Brazilian medical education context: Personal Development Planning (PDP) Framework

#### AUTHOR(S):

- **Fernanda Mayer, Pontifícia Universidade Católica do Paraná, Brazil (Presenter)**
- Jean Tafarel, Pontifícia Universidade Católica do Paraná, Brazil
- Leonardo Margraf, Pontifícia Universidade Católica do Paraná, Brazil
- Odenir Júnior, Pontifícia Universidade Católica do Paraná, Brazil
- José Knopfholz, Pontifícia Universidade Católica do Paraná, Brazil
- Lidia Moura, Pontifícia Universidade Católica do Paraná, Brazil

#### ABSTRACT

**Background:** The prevalence of mental health problems among medical students have significant proportions worldwide. The spirit of time (germ. Zeitgeist) is to 'Act' in favor of health promotion.

**Summary of Work:** Conception of a PDP-Framework in a Brazilian Medical School based on medical students' needs and curriculum reform. PDP definition and model were based on QAA Guidance Document (2009). The PDP-Framework received approval from the rector of the University, and was endorsed by the students' representations. PDP-Framework were included in the Course Pedagogic Project and shared with academic community. The implementation of the PDP was planned to initiate in the first-semester of the medical program in 2018.

**Summary of Results:** The main issues of the medical students were lack of time for extra-curricular activities, lack of mental health care and educational support. Based on these results we performed a curricular reform that reduced the hours of curricular activities in 30% and conceived the PDP-Framework. Our model was to embedded PDP into mainstream curriculum as a subject discipline one hour per week in tutorial groups of ten students, facilitated by two psychologists and one doctor specialist in all years of the medical program. We defined two main competences that foresee transitional skills, self-regulation, self-care, professionalism, resilience and personal, educational and career planning. Learning outcomes were defined for each semester. The PDP privileges active methods of learning based on the process of reflection. Assessment of student performance includes formative and summative manner with questionnaires, reflective writing, ePortfolio and feedback. The PDP evaluation will be based on Kirkpatrick's Model.

**Discussion and Conclusions:** Evidence on interventions in educational environment for promotion of medical students' mental health is limited and quality of the studies is generally low. Partial results of a national survey on support models for medical students in Brazil point to three mains models: psychopedagogical, mental health care and mentoring; optional and parallel to curriculum. The PDP-Model embebbed into mainstream curriculum in all years of the course seems to be a new concept of mental-health care and educational support for medical students in Brazil.

**Take-home Messages:** Personal Development Planning framework seems to be innovative in the context of Brazilian medical education.

## #8N Short Communications - Subjects in the Curriculum

### 8N1 (1696)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 2.15, Level 2

### Humanism in Asian Medical Education - A Scoping Review

#### AUTHOR(S):

- Shi Qi Zhu, National University Health System - Department of Family Medicine, Singapore (Presenter)
- Ying Pin Toh, National University Health System - Department of Family Medicine, Singapore
- Victor Weng Keong Loh, National University Health System - Department of Family Medicine, Singapore
- Ryan Kye Feng Yap, National University of Singapore - Yong Loo Lin School of Medicine, Singapore
- Samuel Yong Siang Lim, National University of Singapore - Yong Loo Lin School of Medicine, Singapore

#### ABSTRACT

**Background:** Instilling humanistic values in medical training lies at the heart of equipping physicians in the art of medicine. In recent years, the growing body of work on this subject has defined and integrated humanism into medical education in Western countries. Given the enduring strands of humanism in Asia, this study aims to understand how humanism in the Asian sociocultural context has been and may be integrated into medical education in Asia.

**Summary of Work:** Arksey and O'Malley's approach to scoping reviews was used to guide the study protocol. Databases PubMed, ERIC, EMBASE, and others were searched for articles on humanism and medical education in Asia. Final articles were selected based on agreed upon selection criteria. Open coding and thematic analysis were performed.

**Summary of Results:** 306 abstracts were retrieved, 78 full-text articles were analysed and 48 articles were included. Thematic analysis revealed 6 themes pertaining to the definition of humanism in Asian medical education, barriers to humanism education in Asia, recommendations for future development, current methods of teaching, stage of medical training at which humanism education is introduced, and methods of assessments.

**Discussion and Conclusions:** Themes highlighted in this review show that there is increasing recognition amongst Asian medical educators for the importance of inculcating humanistic values into medical training. Current literature on teaching humanism in Asia is coloured by Asian cultural values which emphasize self-discipline, teamwork, morality and the importance of community. However, there is a lack of standardized methods of education and a lack of validated assessment tools.

**Take-home Messages:** The integration of humanism into medical education in Asian medical schools is an important area which deserves further research and ongoing discussion. However, training in humanism is not clearly defined nor currently well studied in Asian countries and further research needs to be carried out to develop culturally relevant, effective training methods and validated assessment tools.

## #8N Short Communications - Subjects in the Curriculum

### 8N2 (209)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 2.15, Level 2

### Integrating health economics teaching in Family Medicine: a case study from Thailand

#### AUTHOR(S):

- Win Techakehakij, Lampang Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Concerns about integrating cost consciousness into the medical curriculum in family medicine have been raised to promote efficiency in clinical practice. A standardized list of questions has been prepared for medical students at Lampang Hospital as a guide to retrieve personal and family contexts of each patient at the out-patient department. However, there are still no structured questions to assist students in obtaining information relating to costs and efficiency, which could assist in making clinical decisions efficiently.

**Summary of Work:** A health economist and a family physician collaborated to agree a set of questions to gather economic-related information of patients, which are: 1) all drugs and laboratory investigations the patient was prescribed at that out-patient visit and their respective costs; and 2) direct non-medical costs (DNMc) for the patient and informal caregivers such as transportation and productivity loss. The questions were integrated into the standardized list for 4th- and 5th-year medical students in the family medicine rotation, together with room for discussion about the impact of economic information on the patients' care plan. At the end of the rotation, students were asked to fill in a questionnaire to reveal their attitudes towards this intervention, using a 5-point Likert scale, ranging from Strongly disagree to Strongly agree'.

**Summary of Results:** From 71 students, 87.3% stated that knowing the drug costs made them interested in choosing the most efficient way of treatment; 91.5% reported that knowing laboratory costs encourages them to order only investigations that are necessary; 90.1% agreed that knowing the costs of drugs and investigations encourages them to inquire about patients' health insurances; and 88.7% indicated that knowing DNMc encourages students to establish patients' follow-up plans that help minimize their economic burden.

**Discussion and Conclusions:** Integrating the inquiry about the costs of drugs and investigations, appears to encourage students to find the most efficient way of treatment. Additionally, information about DNMc promotes students' critical thinking to reduce the financial barrier of patients to healthcare access, which could potentially improve treatment effectiveness.

**Take-home Messages:** Integrating cost information inquiries in family medicine is an effective intervention to promote efficiency concern among students.

## #8N Short Communications - Subjects in the Curriculum

### 8N3 (3482)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 2.15, Level 2

### Role of lifestyle Medicine in Medical School Curriculum

#### AUTHOR(S):

- Chaya Prasad, Western University of Health Sciences, USA (Presenter)
- Edward Barnes, Western University of Health Sciences, USA

#### ABSTRACT

**Background:** Western countries are facing a new killer. Chronic diseases are draining medical resources and are now a cause of premature death in these countries. Physicians need to understand the role of Lifestyle medicine and impart this message to their patients, in order to prevent and reverse chronic medical conditions. Up to 80 % of chronic medical conditions and premature deaths can be prevented and treated with appropriate lifestyle changes. We have implemented a lifestyle medicine track in our medical school curriculum.

**Summary of Work:** The lifestyle medicine track director, at the Western University of Health Sciences, California, chooses 17 qualified students per year, with an aggregate of 68 students in the 4 year medical school curriculum. Students are mandated to complete online courses on happiness, attend sessions of culinary medicine, attend presentations by experts in the field of lifestyle medicine and are also encouraged to participate in research projects related to lifestyle medicine. Topics of discussion included role of physical activity, nutrition, sleep, stress, and lifestyle coaching and counseling.

**Summary of Results:** Students participated in 2 culinary medicine sessions, wherein they received hands on training on healthy cooking styles. They listened to experts on the topics of sleep, nutrition, exercise, and wellness. In addition students completed an online module on happiness. Students learnt to work in groups on research projects. They were also involved in mentoring junior students. This pairing was helpful in the completion of projects. Graduating 4th year students completed their capstone projects including true research projects, projects in the form of art, poetry, and their experiences about lifestyle medicine as they observed in their clinical rotations. Projects were presented to all Lifestyle medicine track students. Session on motivational interviewing was well received, in preparation for their clinical rotations.

**Discussion and Conclusions:** Lifestyle medicine may be the answer to chronic medical conditions that is on the rise in western countries. Students need to be educated about the role of healthy lifestyles in the prevention and treatment of chronic conditions. Students can then use the information to help themselves and their patients.

**Take-home Messages:** Lifestyle medicine track should be part of the medical school curriculum.



## #8N Short Communications - Subjects in the Curriculum

### 8N4 (2154)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 2.15, Level 2

### Implementation and Evaluation of Emergency Ultrasound Training in a Swiss Medical School

#### AUTHOR(S):

- **Andrea Meienberg, University Hospital Basel, Switzerland (Presenter)**
- Silke Biller, University Basel, Switzerland
- Matthias Benz, University Hospital Basel, Switzerland
- Joachim Hohmann, Kantonsspital Winterthur, Switzerland
- Roland Bingisser, University Hospital Basel, Switzerland
- Gilbert Krähenbühl, University Hospital Basel, Switzerland

#### ABSTRACT

**Background:** Point-of-care ultrasound (POCUS) is an important tool to clinicians supporting clinical decision-making. Teaching of POCUS to undergraduate students is a novelty in Europe, and mandatory emergency ultrasound training (EUST) was only recently implemented at the University of Basel. This is the first overview on the EUST content, structure, and evaluation in Switzerland.

**Summary of Work:** Curriculum development: An expert task force defined content, structure, quality assessment, and evaluation of the EUST. Evaluation: Post training assessment was performed using a seven-point Likert scale online tool, ranging from 1 (not true at all) to 7 (entirely true). Overall rating used Swiss school grades from 1 (insufficient) to 6 (excellent). Results were given as mean and standard deviation (SD). Qualitative feedback by students and tutors was sought regarding feasibility.

**Summary of Results:** Curriculum development: The EUST was implemented in 2018 in year 4. The curriculum consisted of an online theoretical introduction in basics ultrasound skills, followed by two four-hour trainings in e-FAST, ultrasound-guided procedures, 2-point compression ultrasound, and evaluation of gallbladder, kidneys, urinary tract, and abdominal aorta. Practical training was performed in groups of 20 students and 4 tutors (2 accredited physician tutors; 2 trained student tutors). A skills lab was set up for self-directed learning. Evaluation: 178 students participated the first EUST. 68 (38%) participants completed the survey. Mean overall rating was 5.1 of 6 (SD0.4). Competence of student tutors was 5.8 of 7 (SD1.1); Competence of accredited tutors was 6.4 of 7 (SD1). Rating of the duration of training was 2.1 of 7 (SD1.5). Rating of own competence to perform ultrasound examinations independently was 3.3 (SD 1.7).

**Discussion and Conclusions:** The newly implemented undergraduate EUST is feasible and highly accepted. Students deemed additional trainings and skills lab time necessary according to qualitative feedback. This is in line with low ratings regarding duration of training and competence. The trained student tutors were rated to be a valuable support by physician tutors and students. They contributed half of the 320 teaching hours

**Take-home Messages:** Undergraduate EUST is feasible. However further training opportunities must be established to achieve acceptable clinical skills.

## #8N Short Communications - Subjects in the Curriculum

### 8N5 (444)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 2.15, Level 2

### Development of Statistical Literacy and Scientific Reasoning & Argumentation Skills in Medical Doctors

#### AUTHOR(S):

- Markus Berndt, University Hospital of LMU Munich, Institute for Medical Education, Munich, Germany (Presenter)
- Felicitas Schmidt, University Hospital of LMU Munich, Institute for Medical Education, Munich, Germany
- Jan Zottmann, University Hospital of LMU Munich, Institute for Medical Education, Munich, Germany
- Maximilian Sailer, Ludwig-Maximilians-Universität München, Chair of Education and Educational Psychology, Munich, Germany
- Martin Fischer, University Hospital of LMU Munich, Institute for Medical Education, Munich, Germany

#### ABSTRACT

**Background:** Statistical literacy of medical doctors, i.e. the ability to use and understand statistical numbers, is an essential prerequisite for risk estimation and risk communication (Nelson et al. 2008). Together with scientific reasoning and argumentation skills (SRA; Fischer et al., 2014), statistical literacy provides the basis for evidence-based practice. Several studies suggest that both skills are underdeveloped in medical students, but better developed in medical doctors (Gaissmaier & Gigerenzer, 2008; Gigerenzer, 2010).

**Summary of Work:** The aim of the present study was to investigate the development of these skills in medical doctors. Together with biographical information, data was gathered on statistical literacy (max. score 40) and SRA skills (evidence evaluation and drawing conclusions, max. score 204) from N = 33 medical doctors in Germany (17 female, 16 male, mean age M = 40.06, SD 9.49).

**Summary of Results:** Analysis showed average scores in statistical literacy of M = 27.76 (SD = 6.92) and SRA skills of M = 106.27 (SD = 21.53). Significantly more participants indicated to have acquired scientific competencies after their studies in an autodidactic manner (M = 4.88, SD = 1.07) rather than during their studies (M = 2.32, SD = 1.52;  $t(1,32) = -5.291$ ,  $p < .001$ ) or in extracurricular activities (M = 2.80, SD = 1.72;  $t(1,32) = 4.673$ ,  $p < .001$ ). The number of scientific publications predicted the performance in statistical literacy ( $\hat{\eta}^2 = .058^*$ ,  $R^2 = .125$ ;  $F(1,32) = 4.446$ ,  $p = .043$ ;  $r(33) = .354^*$ ). Having completed a doctoral thesis did neither influence the scoring in statistical literacy, nor SRA skills.

**Discussion and Conclusions:** Biographical data suggests that skills development relates mainly to autodidactic learning activities outside of formal medical education. Involvement in research and publication activities is a positive predictor for statistical literacy. However, having only completed a doctoral thesis had no significant effect on statistical literacy or SRA skills. This might indicate a lack of scientific independence and responsibilities during doctoral work.

**Take-home Messages:** Medical curricula should include active involvement in research, and overall, the development of statistical literacy and SRA skills needs to be systematically fostered during medical education.

## #8N Short Communications - Subjects in the Curriculum

### 8N6 (103)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 2.15, Level 2

### An Evaluation Study of the Bioethics Curriculum of an Undergraduate Medical Program

#### AUTHOR(S):

- Anita Allana, The Aga Khan University, Pakistan (Presenter)
- Kulsoom Ghias, The Aga Khan University, Pakistan
- Syeda Kauser Ali, The College of Physicians and Surgeons Pakistan, Pakistan

#### ABSTRACT

**Background:** Professionalism and ethical behavior is essential to be a good physician. To inculcate relevant knowledge, skills and attitudes in medical students, bioethics is a longitudinal component of undergraduate curriculum at a private medical college in Karachi, Pakistan. The most recent iteration of the bioethics curriculum has been in place for over 5 years.

**Summary of Work:** We designed a study to evaluate student achievement, appropriateness of subject matter and effectiveness of instructional methods in the existing bioethics curriculum. Mixed methods approach was utilized to gather data. Focus group discussions (FGDs) and document review were primary methods for data gathering for qualitative phase and a self-administered questionnaire was used for collection of quantitative data.

**Summary of Results:** Students who had been through the bioethics course and faculty who had facilitated, planned and observed the sessions found the curriculum contents to be relevant, informative and appropriate as per the learning objectives. The multi-modal instructional methods (such as movies, short videos, case analysis, panel discussions, workshops, etc.) used were found to be effective and engaging. Small group teaching, interactive and shorter sessions were preferable for increasing engagement and fostering discussion. Large class format lectures were less effective. Bioethics teaching was perceived to have contributed significantly to personal and professional development of learners in terms of reasoning, critical thinking and problem solving skills. Students felt that the curriculum could be further strengthened through better integration in clinical years, addressing the disconnect between theory and practice, ensuring role modelling and providing opportunities for application in clinical settings.

**Discussion and Conclusions:** Student perceptions regarding contribution of bioethics to their personal and professional development changed as they progressed through the five-year undergraduate program. They could better appreciate the impact of learning on their ethical positioning and decision making; however, they stated a disconnect from theory to practice due to limited role modelling. Lessons learnt are useful for improving the existing curriculum and can be utilized by other medical schools for development and improvement of bioethics curricula.

**Take-home Messages:** Bioethics teaching promotes ethical decision making among medical students.

## #80 Short Communications - Transition

801 (2052)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 2.31, Level 2

### Introduction to Patient Care - An Innovative Learning Experience for Year 4 Medical Students commencing Clinical Placements

#### AUTHOR(S):

- Kate Leech, University of Edinburgh, Medical School, UK (Presenter)
- Vicki McCorkell, University of Edinburgh, Medical School, UK
- Janet Skinner, University of Edinburgh, Medical School, UK
- Jennifer Tocher, University of Edinburgh, Nursing School, UK
- Kirsty Egan, University of Edinburgh, Medical School, UK

#### ABSTRACT

**Background:** Medical Students at Edinburgh Medical School enter the hospital clinical area on a regular basis for the first time in their 4th year. Prior to this, students will have undertaken a year of intercalated studies, often taking them away from the clinical setting. During Year 4 students have a 2 week TEAM placement where they work as part of the interdisciplinary team, taking on the role of a Clinical Support Worker. Many of the students have little practical experience and the clinical environment can seem daunting. Our aim was to make this transition less formidable through our innovative teaching session.

**Summary of Work:** During the first introductory week, the whole student year receive a coordinated programme of lectures encompassing the relevant information for their subsequent placements. As preparation for clinical placements we designed a teaching session in a simulated ward environment introducing an inter-professional element where nursing students took on the role of charge nurse and helped facilitate aspects of patient care. Medical students had the opportunity to role play both as patient and carer carrying out patient care tasks such as feeding and teeth brushing. As a result of this role play session they also revised key practical skills helping to prepare for their TEAM and other clinical placements.

**Summary of Results:** Students embraced the challenge of the various tasks. The feedback received indicated this session helped them feel more confident in various clinical skills and gave insight into providing personal care to a patient, thus encouraging empathy with patients.

**Discussion and Conclusions:** Putting the student into the patient's shoes can be a powerful teaching tool, allowing students to empathise with their patient's situation. Essential revision of skills being placed more in context allowed students to experience some of the challenges of team work and patient care in a safe environment.

**Take-home Messages:** Teaching can change a learner's perspective when creative thinking is applied.

## #80 Short Communications - Transition

802 (1623)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 2.31, Level 2

### Mind the gap - Helping medical students bridge the gap between their theoretical courses and clinical practice. Contribution of a video-based approach

#### AUTHOR(S):

- Felicitas Beger, Medical Student, Université Catholique De Louvain, Belgium (Presenter)
- Franck Verschuren, Emergency Department, Université Catholique de Louvain, Belgium
- Marie-Claire Van Nes, Medical Education Unit, Université Catholique de Louvain, Belgium

#### ABSTRACT

**Background:** The transition from student to junior doctor has always been a challenge. Many undergraduates argue that teaching is too theoretical, and feel unprepared for their first shifts. This video-based approach tries to bridge the gap and increase preparedness for clinical practice. It is based on the Entrustable Professional Activities (EPAs) for undergraduate students defined by our university. The videos may be considered as a threshold concept related to clinical reasoning.

**Summary of Work:** Final year medical students used seven videos to prepare for the emergency medicine part of their final exam. Each video focused on the management of a common symptom and was associated with assessment questions to engage the students in an active learning process. A survey questionnaire of 16 questions was used to evaluate the quality of the videos. The Likert-type questions underwent semi-quantitative analysis and immersion/crystallisation analysis was used for the open questions and comments.

**Summary of Results:** 152 students answered the questionnaire (response rate: 34%). The qualitative analysis of the questionnaire crystallised twelve key concepts from the students' comments. Sixty-one percent of students found the videos very useful for their personal learning outcomes. The quality of learning was probably improved as they reported that the knowledge stayed in their long-term memory. Cases shown in the videos were frequently encountered in the workplace. Students said they were able to deal with these situations in a more structured way. The videos allowed for demystification of clinical tasks that often seem scary to young doctors. Students reported decreased stress and increased autonomy.

**Discussion and Conclusions:** According to the students the videos had a positive impact on their transition from theoretical to clinical work. This first evaluation of the learning-videos encourages us to pursue the project and set up new videos, incorporating the students' suggestions. While the first seven videos were teacher-induced, the new ones will be trainee oriented, ensuring an increased focus on what is important to students and junior doctors. Additionally we'll be adding a forum for discussion and background literature for each case.

**Take-home Messages:** An e-learning approach to ease the transition into clinical practice can be beneficial.



## #80 Short Communications - Transition

803 (128)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 2.31, Level 2

### The U&Me Near to Peer Junior Medical Staff Mentoring Program

#### AUTHOR(S):

- Louisa Ng, University of Melbourne, Australia (Presenter)
- Lynne Denby, (previously) Royal Melbourne Hospital, Australia

#### ABSTRACT

**Background:** Transition from a medical student to internship can be challenging. A slightly more experienced peer group can provide additional mentoring support during this crucial time.

**Summary of Work:** Royal Melbourne Hospital (RMH) employs 80 interns annually. Most continue working at RMH the following year and are therefore ideally placed to become peer mentors for the incoming interns. 40 'U&Me' Mentors (2 mentees each) were selected based on non-technical skills. They participated in professional development workshops over 6 months: 1) Introduction; 2) Understanding Personality Types 3) Emotional Intelligence 4) Teaching on the Run. The program was evaluated after 12 months through mixed methods.

**Summary of Results:** For the purposes of this abstract, only the experiences of the mentors have been included. 25 of 40 responded to the evaluation questionnaire. All had had contact with their mentee mostly through text messages, e-mail and face-to-face meetings. Most (n=18, 72%) had had occasional contact, some had frequent contact (n=4, 16%). Mentee enquiries ranged from logistical tasks (day to day tasks, navigating the system) to seeking emotional support (allaying fears or concerns). 18 (72%) were confident that the mentee/mentor relationship would continue. 23 (92%) felt they had gained and/or strengthened skills through the program - of these, the most frequently cited were, counselling and debriefing skills (n=18, 72%), communication skills (n=15, 60%) and active listening skills (n=13, 16%). "I began the role knowing that this is not about career mentoring nor a ... (supervisory) relationship. My understanding is that this is about advocacy, about having a relationship, and about sharing experiences. What I didn't expect was how powerful and meaningful these relationships and experience sharing can mean to someone starting out anew in a large and often impersonal environment. The mentoring process gives both mentor and mentee an opportunity to normalise their own experiences." Mentor

**Discussion and Conclusions:** A peer support program is a valuable additional support during a time of transition and the professional development of mentors is a key factor to success.

**Take-home Messages:** A peer support program with trained mentors should be considered especially during transitions.

## #80 Short Communications - Transition

804 (1513)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 2.31, Level 2

### The Learner Education Handover - Lessons Learned from the Beta-Test

#### AUTHOR(S):

- Aliya Kassam, University of Calgary, Canada (Presenter)
- Leslie Nickell, University of Toronto, Canada
- Glen Bandiera, University of Toronto, Canada

#### ABSTRACT

**Background:** Improved communication about learners, between undergraduate medical education (UGME) and postgraduate medical education (PGME) programs, may ease the transition for trainees. Knowing more about learner needs may enable PGME programs to create individualized learning plans, to optimize resident function and success. With key stakeholders across Canada, the Learner Education Handover (LEH) was developed to share information provided by both the learner and the UGME program related to learner needs. The purpose of this beta-test study of the LEH was to determine its utility, value and feasibility.

**Summary of Work:** The LEH beta-test comprised three phases of data collection. Phase 1: Unidentifiable medical student participants completed their portion of the LEH. Learners in need (LIN) and learners without identified needs (LWIN) were identified from this data. A pool of learner profiles were selected from the two groups. Phase 2: Undergraduate Medical Education (UGME) Deans received 20 randomly selected student completed sections. UGME deans were asked to complete their sections of the LEH based on previous experience with similar learner profiles. Phase 3: Postgraduate Medical Education (PGME) Deans received, 'fictitious' compilations of completed LEH forms for review. All three groups of participants completed a survey addressing the content and process of the LEH form.

**Summary of Results:** Fifty-two medical students from six medical schools participated in Phase 1. A total of (N=65) surveys were completed across the 3 phases of data collection. The majority of respondents thought the LEH was feasible, learner-centered and adds value. Themes from participants included potential privacy concerns, the need for consistent definitions, clarity of scope, more emphasis on student strengths and reliability of learner insight.

**Discussion and Conclusions:** Beta-test outcomes led to revisions to the LEH that focus on potential future learner needs (rather than past events in medical school), enhanced strengths of the learner and ability to trigger a proactive, private conversation with a designated PG staff, for more in-depth transitional planning.

**Take-home Messages:** 1) The LEH is useful, feasible and of value to help ease the transition from medical school to residency. 2) Key stakeholders must continue to inform and support the LEH for implementation across Canada.

## #80 Short Communications - Transition

805 (506)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 2.31, Level 2

### Preparedness for practice affects how medical undergraduates regard themselves as medical professionals, teamwork ability, and cognitive flexibility

#### AUTHOR(S):

- Chung-Hsien Chaou, Chang Gung Medical Education Research Center, Taiwan (Presenter)
- Shiuan-Ruey Yu, Chang Gung Medical Education Research Center, Taiwan
- Hsu-Min Tseng, Chang Gung Medical Education Research Center, Taiwan
- Lynn Monrouxe, Chang Gung Medical Education Research Center, Taiwan
- Yu-Che Chang, Chang Gung Medical Education Research Center, Taiwan

#### ABSTRACT

**Background:** Medical schools prepare undergraduates for clinical practice. Clinical competencies are built up gradually and continuously. Literature suggests that new graduates are often unprepared for independent practice. This study aims to validate a Chinese version of preparedness for practice questionnaire (PHPQ) and to investigate the effect of preparedness on various maturation indicators.

**Summary of Work:** The original eight-domain English-version PHPQ was translated into Chinese and back-translated for expert panel discussion. Eight domains comprised interpersonal skills, confidence, collaboration, management, science, prevention, holistic-care, and self-directed learning. Reliability and validity was checked by Chronbach's alpha and confirmatory factor analysis (CFA), respectively. Participants were divided into higher and lower preparedness groups according to PHPQ results and compared for: professional identity, teamwork ability, cognitive flexibility.

**Summary of Results:** A total of 129 final-year clerks (55% males) participated the study. Overall Cronbach's alpha is 0.94. A satisfactory goodness of fit data was yield for the CFA with a CMIN/DF of 2.02. Higher preparedness was identified for the domains of self-directed learning and prevention; lower preparedness for interpersonal skills and patient management skills. Higher levels of preparedness are associated with stronger professional identity ( $p < 0.001$ ), teamwork ability ( $p < 0.001$ ), cognitive flexibility ( $p < 0.05$ ).

**Discussion and Conclusions:** The Chinese version of PHPQ showed good reliability and validity. Preparedness for practice was associated with how learners feel about themselves as doctors and how well they were integrated in medical teamworking. Hospital multi-professional practice and real-patient decision-making should be emphasized during the transition from classroom didactic teaching to clinical work-placed learning.

**Take-home Messages:** The Chinese version of PHPQ is valid and reliable. Undergraduates were more prepared for self-directed learning, but less prepared for interpersonal and patient management skill in the study cohort. Preparedness for practice is closely associated with how medical undergraduates regard themselves as medical professionals, teamwork ability, and cognitive flexibility.

## #80 Short Communications - Transition

806 (2992)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 2.31, Level 2

### First Night-on Call (FNOC): Establishing a Community of Practice and Culture of Patient Safety for Incoming Interns

#### AUTHOR(S):

- Adina Kalet, New York University School of Medicine, USA (Presenter)
- Kinga Elias, New York University School of Medicine, USA
- Jeff Manko, New York University School of Medicine, USA
- Grace Ng, New York University School of Medicine, USA
- Thomas Riles, New York University School of Medicine, USA
- Sondra Zabar, New York University School of Medicine, USA

#### ABSTRACT

**Background:** We implemented an authentic, immersive First Night-onCall (FNOC) simulation to ensure that new interns are ready to address common patient safety issues on 'Day 1'. The objectives of this simulation were to support transitioning trainees, cultivate a culture of safety, and create a community of practice - all in service of preparing new interns and establishing expectations of high-quality patient care.

**Summary of Work:** FNOC included pre-work, immersive simulation, debriefing. In 4-hours, new interns, in groups, were challenged to: conduct an ethical informed consent, evaluate a decompensating patient and activate a rapid response team, recognize a mislabeled blood culture bottle and other common patient safety hazards, conduct an effective handoff, participate in patient safety rounds, and a faculty-led debrief. Learners completed a pre-program, retrospective pre-post assessment, and are completing a program evaluation six-months later. Standardized-Patients and Standardized-Nurses completed behaviorally-anchored checklists for each case. This study is part of our IRB-approved GME Registry.

**Summary of Results:** 200 incoming interns from 11 clinical disciplines completed FNOC. While 36% (n=72) reported having witnessed a medical error, only 25% (n=50) reported any formal patient safety training. During FNOC, 68% of groups (n=47) called a rapid response team and 19% contacted the senior resident for the decompensating patient; 53% of groups (n=46) recognized the label error for the blood cultures; 44% of groups (n=47) ensured patient privacy when obtaining informed consent. Post FNOC, more than 92% (n=173) of interns reported increased comfort in speaking to a supervisor, escalating a situation, and reporting a medical error. Almost all interns (n=173) agreed/strongly agreed FNOC was an effective (92%), fun (91%), and engaging (92%) way to learn patient safety. Out of the 86% of interns who completed the pre-program, over 85% agreed that the online modules increased readiness-for-internship. Our institutional AHRQ Culture of Safety Survey also shows improvement trends in the culture.

**Discussion and Conclusions:** A large-scale experiential patient safety simulation-based curriculum is a feasible and effective approach to engage learners, helps build a community of practice, and enhances patient safety culture and outcomes.

**Take-home Messages:** Experiential patient safety orientation for new interns can have a lasting impact.

## #8P Short Communications - Interprofessional Education 2

### 8P1 (2314)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room L1, Level 1

### Interdisciplinary and Collaborative Learning in Healthcare - an e-Learning Tool

#### AUTHOR(S):

- Janina Iwaszko, University of Worcester, UK (Presenter)
- Theresa Mitchell, University of Worcester, UK

#### ABSTRACT

**Background:** The healthcare workforce is becoming increasingly more complex and as the number and type of health professionals involved in patient care increases, their ability to work collaboratively becomes more critical. There is now sufficient evidence to support the concept that interdisciplinary learning (IDL) enables improved collaborative practice. One of the major obstacles to achieving the integration of interdisciplinary learning in the healthcare professional curriculum are issues of timetabling across different professional courses. This session describes the design, rationale and evaluation of an e-learning tool that enables students of seven different professions to experience interdisciplinary learning with minimal impact on timetabling.

**Summary of Work:** A simulated patient journey was undertaken from home to hospital and discharge. The care of the patient underwent ten transitions of care, with different healthcare professionals, each handover was videoed. Students then watched the videos, as part of an e-learning package, and undertook structured reflection from the point of view of their own profession and commented on the transitions of care as part of their own curriculum. They then came together in one plenary session to share their findings. These were analysed qualitatively.

**Summary of Results:** Results showed that the majority of health care students felt that IDL was an enlightening and positive experience. Many expressed surprise at how differently each profession approached the patient, even though they were involved in the same simulated patient's care. The level of misconceptions between professions about how each one worked was high, particularly in areas such as history taking, pain relief, patient empowerment and communication and medicolegal aspects.

**Discussion and Conclusions:** The students from all professions learnt about the differing culture of the other profession. Students concluded that over all that they would be more confident and knowledgeable when working with different types of healthcare professional in a real clinical setting, leading to improved and clearer communication.

**Take-home Messages:** Interdisciplinary learning is core for good collaborative practice and patient care. Integrating opportunities for this across different professional timetables is challenging. Students enjoyed learning about how other professionals work and IDL lead to increased confidence, and a clearer understanding of how to work more safely and collaboratively in an increasingly complex workforce.



## #8P Short Communications - Interprofessional Education 2

### 8P2 (1753)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room L1, Level 1

### Medical Students' Perception About Embedding Interprofessional Education Curriculum: An Observational Analytic Study

#### AUTHOR(S):

- Sasha Geganaresi Liardi, Sebelas Maret University, Indonesia (Presenter)
- Eti Poncorini Pamungkasari, Sebelas Maret University, Indonesia

#### ABSTRACT

**Background:** Interprofessional Education continues to be a hot topic in the field of health education. Sebelas Maret University in the past two years has also begun to incorporate Interprofessional Education in students. Several studies proved that IPE is very influential on the success of optimal patient handling by strengthening the foundation of cooperation among health professionals. This study aims to analyze differences in perceptions of students between students who take part in the curriculum with learning IPE and those who do not.

**Summary of Work:** This study was assessed by a self-administrated questionnaire developed by the research team. These questionnaires were distributed to 318 students from the Medical School of Sebelas Maret University, consisted of the 2017 class (IPE curriculum) and 2016 class (non-IPE curriculum) This study was an observational analytic study with a cross-sectional approach, conducted in October 2018 at the Faculty of Medicine, Sebelas Maret University, Surakarta. Data analysis used Independent T-Test

**Summary of Results:** Broadly speaking, the results of the study found a positive perception of medical students. There are differences in perceptions between students who get IPE curriculum and those who don't ( $p = 0.013$ ). Positive perceptions of medical students can help medical education to identify the most effective ways to deliver IPE and future plan curriculum. This study can also develop the mindset of medical students to welcome a better IPE curriculum.

**Discussion and Conclusions:** There are differences in student perceptions about IPE in students exposed to the IPE curriculum and not. The positive perception of this study can help the development of the IPE curriculum.

**Take-home Messages:** The implementation of the IPE curriculum will improve students' perceptions of IPE.

## #8P Short Communications - Interprofessional Education 2

**8P3** (2886)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room L1, Level 1

### How Identity Matters: A Qualitative Study of Perceptions of Interprofessional Feedback in Diabetology Training

#### AUTHOR(S):

- Katrin Feller, University Hospital of Bern, Switzerland (Presenter)
- Christoph Berendonk, Institute for Medical Education, University of Bern, Switzerland

#### ABSTRACT

**Background:** Little is known about receptiveness to interprofessional feedback in a postgraduate setting. This study explores, in light of social identity theory, the perceptions of residents, senior physicians and allied health care professionals regarding interprofessional feedback in the context of workplace-based assessment.

**Summary of Work:** Residents in diabetology at the University Hospital of Bern, Switzerland, performed formative workplace-based assessments under direct observation of a senior physician and an allied health care professional. Feedback of both observers was given after every assessment to the resident. Focus group discussions were conducted to analyze the perception of participants, using a constructivist grounded theory approach.

**Summary of Results:** While different social identities are the source of interprofessional hierarchies, they do not hinder the receptivity to feedback. Perceived trustworthiness of the feedback is given more importance than professional affiliations, whereas intraprofessional hierarchies between physicians led to the perception of a more summative character of the feedback and rather hindered receptivity. Interprofessional feedbacks strengthened collaboration but organizational support is required to promote such activities.

**Discussion and Conclusions:** Despite disposing of a firm professional identity, residents in a postgraduate training in diabetology retained a positive attitude towards interprofessional feedback in the context of workplace-based assessments. Perceived credibility of the feedback source was crucial for acceptability of feedback. Interprofessional workplace-based assessments require institutional support, but might be a promotor for improving interprofessional collaboration.

**Take-home Messages:** Interprofessional feedback from allied health care professionals can be a powerful resource for residents in the setting of a postgraduate subspecialty training, taking its role outside the sometimes conflicting area of intraprofessional hierarchies.

## #8P Short Communications - Interprofessional Education 2

### 8P4 (1883)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room L1, Level 1

### UK trainee clinical scientists' perceptions and experience of Interprofessional Education

#### AUTHOR(S):

- Jaimini Patel, University of Birmingham, UK (Presenter)
- Sharon Buckley, University of Birmingham, UK
- Sandie Gay, National School of Healthcare Science, UK
- Ian Davison, University of Birmingham, UK
- Alistair Hewison, University of Birmingham, UK

#### ABSTRACT

**Background:** Clinical Scientists have a vital role in the UK NHS workforce, working in multi-professional teams to deliver high quality patient care (Department of Health, 2010). Interprofessional Education (IPE) is recognised as an important pedagogy for developing the knowledge, skills and attitudes required for effective collaborative working. The UK Scientist Training Programme (STP) is a pre-registration training programme for clinical scientists which combines workplace-based learning with a Masters degree in Clinical Science. All STP trainees must engage in IPE, however little is known about their perceptions of IPE or the nature of their IPE experience.

**Summary of Work:** Nine hundred STP trainees were invited to complete an online questionnaire incorporating the Interprofessional Education Perception Scale (IEPS) (Luecht, 1990), to explore their perceptions and experience of IPE. Semi-structured interviews with seven final-year trainees were conducted to examine their experiences in greater depth.

**Summary of Results:** Two hundred and fifty five trainees (28.3%) completed the questionnaire and 45.8% had experienced IPE before starting the programme. The mean IEPS score for all respondents was 270.87 ( $\pm 33.74$ ), with no significant differences in perceptions between cohorts or between respondents from the scientific specialties (Physiological, Physical, Life or Informatics). Subscale scores were: Competence and Autonomy ( $79.59 \pm 0.67$ ), Perceived Need for Cooperation ( $62.97 \pm 0.58$ ), Perception of Actual Cooperation ( $76.88 \pm 0.72$ ) and Understanding Others' Value ( $51.44 \pm 0.60$ ). The number of respondents reporting experience of IPE in STP work-based clinical placements and in academic components was similar (118 and 101 respectively), six or more episodes of IPE were more frequently reported for clinical than university settings (62.7% and 20.8% respectively). Qualitative responses supported these findings, with interviewees acknowledging the importance of collaborative working for their understanding of patients' pathway and other professionals' roles.

**Discussion and Conclusions:** Our findings suggest that STP trainees view IPE positively and reflect those obtained for other pre-registration health professionals. Opportunities for IPE are available within the STP, particularly on work-based placements. Implications for future development of the STP are discussed.

**Take-home Messages:** UK trainee clinical scientists view IPE positively and are able to access IPE through the Scientist Training Programme.

**References:** Department of Health, Modernising Scientific Careers 2010.

Luecht, R.M., et al, 1990. J Allied Health, 19(2), pp.181-191.

## #8P Short Communications - Interprofessional Education 2

**8P5** (1926)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room L1, Level 1

### The interprofessional training ward Zurich - Conceptualisation and Roll out

#### AUTHOR(S):

- Gert Ulrich, "Interprofessional Training Ward Zurich" Network, Switzerland (Presenter)

#### ABSTRACT

**Background:** Interprofessional training wards (IPTW) have emerged as promising work-place based trainings for health professions to improve interprofessional (IP) learning and patient outcomes. On IPTW, students from various health professions collaborate and learn together to care for 'real' patients under supervision of experienced facilitators. To the best of our knowledge, however, most of the IPTW do not base on a scientific theoretical framework that allows to be transferred on various medical disciplines, wards and hospitals, respectively. Therefore, the aim of our project was to develop a general, evaluated concept for an IPTW that can be rolled out in various wards or hospitals.

**Summary of Work:** In 2018, after 1.5 years of feasibility study, the first Swiss IPTW was successfully transferred into practice and evaluated in a pilot phase with engagement of 6 institutions located at the Swiss canton of Zurich (IPTW Zurich network). The IPTW was tested on a neurological ward (University hospital Zurich) including students and facilitators from medicine, nursing, physiotherapy and occupational therapy.

**Summary of Results:** During the feasibility and pilot phase, the essential scientific based findings (e.g. learning objectives, pedagogical concept, evaluation strategy, courses for facilitators) and practical recommendations (time schedule on the IPTW, infrastructure requirements, work shadowing plan) were documented in an IPTW manual by the project team to allow further wards and hospitals to adapt this concept. The implementation and roll-out is supported by a project team provided by the IPTW Zurich. Currently, the roll out aims at further university hospitals in the canton of Zurich and associated hospitals of the local Medical Faculty (University of Zurich).

**Discussion and Conclusions:** To the best of our knowledge, the development of a scientific based and broadly evaluated IPTW concept that allows to be expanded on further wards and hospitals is novel in German speaking countries. In this conference contribution, the IPTW Zurich concept, the roll out strategy, as well as the underlying relevant documents will be presented and discussed.

**Take-home Messages:** For the roll out of IPTW concepts, a manual including theoretical and practical relevant documents as well as the provision of services (e.g. courses for facilitators) are required.

## #8P Short Communications - Interprofessional Education 2

### 8P6 (1453)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room L1, Level 1

### Construction and validation of geriatric cases for Interprofessional Education

#### AUTHOR(S):

- Carolyn Teuwen, Noordwest Ziekenhuisgroep, the Netherlands (Presenter)
- Rashmi Kusurkar, Amsterdam UMC, the Netherlands
- Hermien Schreurs, Noordwest Ziekenhuisgroep, the Netherlands
- Hester Daelmans, Amsterdam UMC, the Netherlands
- Saskia Peerdeman, Amsterdam UMC, the Netherlands

#### ABSTRACT

**Background:** Interprofessional Education (IPE) can be offered in classroom setting through the use of constructed cases, provided that the cases are realistic and adjusted for the competence level of the involved group. Despite this need of good quality cases, there is a lack of literature on how to construct them, or how to validate their content. How can cases suitable for IPE be constructed and validated, with the input from different professions in clinical practice?

**Summary of Work:** We constructed four geriatric cases in alignment with the growing geriatric population in Europe. The four cases we constructed were used for pairs of medical and nursing students to develop treatment plans together. To reach consensus, between the different experts in clinical practice, about the content of the patient description and treatment plans, we made use of different consensus methods like Delphi and Nominal Group. The expert information was generated in three different rounds to validate the cases. Experts from eight different professions were involved. There was email as well as face-to-face contact.

**Summary of Results:** After three expert rounds we reached consensus about the content. We incorporated these 3 rounds (step 1, 5 and 7) into 8 steps to validate the cases: 1. Inventory of common geriatric cases; 2. Construction of four cases out of step 1; 3. Define difficulty of each case; 4. Draw up treatment plans; 5. Validation of patient descriptions and treatment plans by eight experts; 6. Inventory of suggested adjustments; 7. Consensus through discussion with two experts; 8. Pilot with students.

**Discussion and Conclusions:** We developed 8 steps to construct and validate content and treatment plans of cases suitable for IPE. Due to the different professions involved, a variety of opinions can arise and can make it difficult to reach consensus. Especially on the treatment plans experts showed diverse opinions. We showed how to reach consensus between these different experts and validate the cases, using various aspects of consensus methods.

**Take-home Messages:** It is possible to construct and validate geriatric cases for IPE in undergraduate education. We developed 8 steps to validate the content using different opinions of experts in clinical practice.



## #8Q Short Communications – Selection: Widening Access

### 8Q1 (1834)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.15, Level 0

### Well begun is half done: The importance of an inclusive programme at the start of (bio)medical education

#### AUTHOR(S):

- Gönül Dilaver, UMC Utrecht, the Netherlands (Presenter)
- John Meeuwssen, UMC Utrecht, the Netherlands
- Gisela van der Velden, UMC Utrecht, the Netherlands

#### ABSTRACT

**Background:** An inclusive programme at the start of the academic year can ensure that all students feel welcome and comfortable at university. This is important since an inclusive atmosphere is associated with enhanced study performance and better collaboration among students. However, many reports show that not all students actually feel included among their peers and different minority groups experience forms of exclusion during their education period.

**Summary of Work:** To ensure an inclusive atmosphere for the bachelor's programmes Biomedical Sciences and Medicine at Utrecht University, we trained second- and third-year students (mentors), who guided the first-year students during an orientation period, with a bias training. This bias training aimed to make mentors become aware of common prejudices people have towards other people, and to offer them tools to create an inclusive atmosphere during the introduction period. We evaluated the perception of mentors on the bias training and how they changed their acts to be inclusive to all students after the 10-weeks introduction period using questionnaires. In addition, diversity and perception of inclusion was anonymously evaluated among all first-year students. Social inclusion was measured using a validated questionnaire.

**Summary of Results:** Preliminary results show that most mentors found the bias training useful and instructive. A few mentors felt that the training was unnecessary or that the training induced stereotyping behaviour. The majority of first-year students indicated they felt included and that they were able to be their authentic self. Some students mentioned parties or pub crawls as not being inclusive. In addition, they mentioned that taking part in these activities should be accompanied by explicitly mentioning that the use of alcohol is optional.

**Discussion and Conclusions:** In conclusion, the bias training for mentors was regarded as useful and instructive. During the introduction, most students felt they were part of the group. However, several signals indicated room for improvement for an inclusive environment.

**Take-home Messages:** To avoid minority groups feeling excluded or feeling unable to be their authentic selves, future introduction programmes should aim to empower mentors to be inclusive. In addition, alternative activities should be planned alongside or instead of parties and pub crawls. These activities could ultimately lead to an all-inclusive introduction.

## #8Q Short Communications – Selection: Widening Access

### 8Q2 (495)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.15, Level 0

### Social justice in medical education: inclusion is only the first step

#### AUTHOR(S):

- **Marco Antonio de Carvalho Filho, UNICAMP - University of Campinas, Brazil (Presenter)**
- Maria Machado, UNICAMP - University of Campinas, Brazil
- Diego Ribeiro, UNICAMP - University of Campinas, Brazil
- Esther Helmich, University of Groningen, the Netherlands

#### ABSTRACT

**Background:** The competition during the selection for medical schools often requires great financial investment and full-time dedication, which culminates in a bias towards admitting students from upper social classes. Affirmative policies and programs have been adopted to enhance social diversity and inclusion. In a medical school in Brazil, the program PROFIS was devised to include students from extremely poor neighborhoods; those students become the first generation to get a university degree. Few studies have investigated how students from those affirmative programs cope and adapt to the university life while navigating the implicit and explicit cultural norms and rituals.

**Summary of Work:** Medical students originated from PROFIS made a Rich Picture representing a challenging situation they experienced in medical school, considering their admission background. After the picture, students were interviewed to deepen the understanding of the challenges they face. The interviews were transcribed and an iterative thematic analysis informed by Communities of Practice(CoP) framework informed data analysis.

**Summary of Results:** Following CoP theory, developing an identity involves engagement, imagination and alignment, and PROFIS students struggle in all these dimensions. They have financial and social limitations to fully participate in the medical community activities, such as congress, extra-curricular courses, and students' associations. PROFIS students do not feel part of the group and experience feelings of low self-esteem and low self-confidence, they have difficulties imaging themselves as doctors. Because of their different social and racial background, PROFIS students make sense of their experiences through an often-different point of view and struggle to align with the group. PROFIS students experienced racial and social prejudice and were considered less capable and treated differently by some of the teachers. On other hand, PROFIS students mentioned that their social trajectory brought them closer to the patients because they were more able to show empathy.

**Discussion and Conclusions:** Including students with different economic and social background is a complex process that goes beyond admitting them as freshmen/freshwomen. We should devise strategies to foster their socialization through activities that lift up their self-esteem by explicitly showing their contributions to the group.

**Take-home Messages:** Affirmative policies should go beyond inclusion to address professional identity development.

## #8Q Short Communications – Selection: Widening Access

8Q3 (517)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.15, Level 0

**High school grade discounting to widen access to medicine: should we do it? If so, how low should we go?**

### AUTHOR(S):

- Lewis Paton, University of York, UK (Presenter)
- Lazaro Mwandigha, Imperial College London, UK
- Paul Tiffin, University of York, UK
- Adetayo Kasim, University of Durham, UK
- Jan Boehnke, University of Dundee, UK

### ABSTRACT

**Background:** Medical schools use secondary (high) school performance as a major determinant of whether to offer a place or not. This emphasis has partly contributed to the over-representation of socioeconomically privileged individuals in medicine. In the UK, approximately 80% of medical students applied from only 20% of the country's secondary schools. As such, there is a desire to widen access to the profession. There is some evidence that university academic achievement may be inversely related to the performance of a secondary school an entrant attended. Indeed, some medical schools already offer 'grade discounts' to applicants from less well-performing schools. However, evidence to guide such policies is lacking. This study aimed to provide guidance on the extent to which grades should be discounted for applicants from poorly performing secondary schools.

**Summary of Work:** The study used routinely collected national selection data and linked medical school outcomes for knowledge and skills-based tests during the first five years of medical school. High school grades were available for 2107 students enrolled at 18 UK medical schools. Multilevel linear models were created to explore the influence of students' secondary schools on undergraduate achievement in UK medical school. A multilevel approach was used to account for variation in outcomes between universities.

**Summary of Results:** Undergraduate achievement was inversely related to secondary school-level performance. This effect waned over time and was less marked for skills, compared with undergraduate knowledge-based outcomes. Thus, the predictive value of secondary school grades was generally dependent on the secondary school in which they were obtained. In particular, those from high schools performing below the second decile nationally achieved comparable undergraduate results to those from educational establishments above the eighth decile, even with two grades lower obtained at high school.

**Discussion and Conclusions:** Significant secondary school effects were observed on medical school performance. However, this effect does depend on the stage and aspect of undergraduate performance measured.

**Take-home Messages:** Grade discounting for those applicants from the most poorly performing secondary schools is justified. In the UK, this would translate into a decrease of approximately one to two A-level grades.

## #8Q Short Communications – Selection: Widening Access

### 8Q4 (780)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445 – 1500

**Location of Presentation:** Room 0.15, Level 0

### Widening Access to Medical Education: Comparing a Situational Judgement Test to other selection measures

#### AUTHOR(S):

- Kelly Dore, McMaster University, Canada (Presenter)
- Fern Juster, McMaster University, Canada
- Christopher Zou, Altus Assessments, Canada
- Robin Baum, New York Medical College, USA
- Harold Reiter, McMaster University, Canada
- Donald Risucci, New York Medical College, USA

#### ABSTRACT

**Background:** While grades and standardized cognitive test scores for medical student selection provide invaluable predictive validity for future academic performance, they also typically generate effect size differences across demographic categories that hinder widened access goals. However, these studies were conducted with traditionally closed-response (i.e., multiple-choice) SJTs. Would similar relative benefits for widening access be found for constructed-response situational judgment tests when operationalized for medical student selection?

**Summary of Work:** Beginning in 2015, New York Medical College School of Medicine (NYMC-SOM) required all their applicants to complete an online SJT (CASPer). Effect sizes (Cohen's D) were calculated on grade point average (GPA), old version and new 2015 version of Medical College Admissions Test (MCAT), an online constructed response SJT (CASPer), and local multiple mini-interview (MMI) using bivariate analyses on American Medical College Application System (AMCAS) categories: Socioeconomic status was measured across three variables a) SES self-declared disadvantaged status), b) recipients of financial assistance program (FAP), c) parental educational/occupational levels (EO1 or higher). Other AMCAS categories compared included: gender; race (African-American versus White); and ethnicity (Hispanic/Latino versus non-Hispanic/Latino).

**Summary of Results:** 9,096 applications were analyzed for all students completing secondary applications, including all 1,656 students who attended for MMI. Effect sizes [95% confidence intervals] for GPA, old MCAT, MCAT 2015, and SJT across categories demonstrated: for gender  $d=-0.01 [-0.06, .03]$ ,  $d=0.36 [.30, .41]$ ,  $d=0.37 [.31, .44]$ ,  $d=-0.20 [-.24, -.16]$ ; for African-American  $d=0.98 [.90, 1.07]$ ,  $d=1.25 [1.11, 1.39]$ ,  $d=1.43 [1.32, 1.55]$ ,  $d=0.60 [.51, .68]$ ; and for Hispanic/Latino  $d=0.54 [.46, .62]$ ,  $d=0.64 [.52, .75]$ ,  $d=0.86 [.74, .97]$ ,  $d=0.29 [.21, .37]$  respectively. Group differences were significantly smaller or reversed for SJT as compared to the cognitive metrics for nearly all categories.

**Discussion and Conclusions:** Previous studies have demonstrated that the integration of SJTs, traditionally in the closed-response format, in the medical school admissions process can help promote diversity of the student population. This study builds on this work to further illustrate that SJTs in the constructed-response format may be even more effective in widening access to medical education, as the effect size differences were generally much smaller than what was observed with cognitive assessments.

**Take-home Messages:** The adoption of a constructed-response SJT in the medical school admissions process can increase the diversity of the student population.

## #8Q Short Communications – Selection: Widening Access

8Q5 (3398)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.15, Level 0

### Medical school choice among applicants from different social backgrounds: A national qualitative interview study in the United Kingdom

#### AUTHOR(S):

- Eliot Rees, UCL Medical School, UK (Presenter)
- David Harrison, UCL Medical School, UK
- Karen Mattick, University of Exeter Medical School, UK
- Katherine Woolf, UCL Medical School, UK

#### ABSTRACT

**Background:** Widening access to medical students from non-traditional backgrounds has become a political and research priority, in order to utilise the full talent pool of applicants, create doctors representative of the communities they serve, and ensure social justice and fairness. It is known that medical schools vary in the number of applicants from non-traditional backgrounds they attract and accept, but the reasons for this remain poorly understood, with concern that applicants from non-traditional backgrounds are less equipped to make informed choices and maximise their chances of success. This study seeks to explore how and why applicants from different social background choose which medical schools to apply to.

**Summary of Work:** We conducted a national qualitative interview study, adopting a social constructivist perspective. We purposively sampled applicants and first year students from eight UK medical schools, chosen based on patterns of medical school co-applications.. Participants attended semi-structured individual or group interviews exploring motivations for studying medicine, how they gathered and valued information regarding different medical schools, and how they made their choices. We performed a thematic analysis, identifying codes inductively from the data. We sensitised our analysis using sociological theories of capital.

**Summary of Results:** Sixty-three individuals participated: 35 applicants and 31 students, 15 and 9 from non-traditional backgrounds (first in family to attend higher education & state-schooled) respectively. We identified three main themes: priorities, perceived resources and constraints, and strategies for choice. Participants' background influenced their priorities in choosing medical schools. Traditional applicants were more likely to prioritise prestige, whereas non-traditional applicants were more likely to describe being concerned with fitting in, being close to home, and finance. . Applicants described how their beliefs about their own educational, social, financial, and psychological capital expanded or constrained their choices. Based on their differing priorities and perceived resources and constraints, applicants adopted various strategies in making medical school choices.

**Discussion and Conclusions:** Priorities, and perceived resources and constraints shaped applicant choice of medical schools, and these varied depending on applicant social background. Participants from non-traditional backgrounds were more concerned with fitting in, being close to home, financial concerns, and often felt disadvantaged by their lack of educational and social capital.



## #8R Short Communications - Postgraduate Education 4

### 8R1 (585)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.16, Level 0

### Resilience and Burnout: comparison between postgraduate year 1 (PGY1) doctors and faculty members in a Paediatric Department within a tertiary hospital in Singapore

#### AUTHOR(S):

- Mae Yue Tan, Khoo Teck Puat-National University Children's Medical Institute, National University Health System, Singapore (Presenter)
- Jeremy Bingyuan Lin, Khoo Teck Puat-National University Children's Medical Institute, National University Health System, Singapore
- Marion Aw, Khoo Teck Puat-National University Children's Medical Institute, National University Health System, Singapore

#### ABSTRACT

**Background:** The aim of the study was to measure and compare resilience, burnout as well as identify individual protective factors associated with resilience, in junior (postgraduate year 1) and senior (faculty) doctors, within a Paediatric department in a Singapore tertiary hospital.

**Summary of Work:** Postgraduate year 1 (PGY1) doctors and faculty in our department were asked to complete an anonymised self-administered survey that included questions on demographics, and validated questionnaires - Connor Resilience Scale (measure of resilience), and Maslach's Burnout Inventory (MBI) (measure of burnout). Sixty-seven doctors (36 PGY1s, 31 faculty) participated.

**Summary of Results:** There was high burnout in PGY1s (36.1%) compared to faculty's (6.5%)  $p < 0.05$ , in all aspects of the MBI. PGY1s had lower mean resilience score (65) than faculty (77),  $p < 0.001$ . There was strong positive correlation between high Personal Accomplishment (low burnout) and high resilience for both groups ( $r = 0.576, p < 0.001$  PGY1 and  $r = 0.512, p = 0.003$  faculty). Older age, being married/ having a partner, having a religion were not associated higher resilience.

**Discussion and Conclusions:** Doctors have higher resilience compared to population norms but this does not protect junior doctors from the high burnout in PGY1s. More can be done to help junior doctors develop protective factors to prevent early burnout. These could include working towards building their sense of personal accomplishment. Resilience has an inverse relationship to burnout in both groups in our study and this confirms prior observations. Physicians in our department have high resilience compared to population norms, but burnout is still present.

**Take-home Messages:** Knowing which aspects of the MBI affects resilience can help departments target efforts to boost resilience, by enhancing sense of personal accomplishment and competency for all doctors such as recognising efforts and having a reward system in place.

## #8R Short Communications - Postgraduate Education 4

### 8R2 (2034)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.16, Level 0

### Holding Hands: An Initiative to Improve Junior Doctor Wellbeing

#### AUTHOR(S):

- Magali Dubus, East Kent Hospitals University Foundation Trust, UK (Presenter)
- Olatokunbo Sanwo, East Kent Hospitals University Foundation Trust, UK
- Shaveta Mulla, East Kent Hospitals University Foundation Trust, UK

#### ABSTRACT

**Background:** Burnout is increasingly recognised as a problem among junior doctors; contributing to low morale, physical and mental health issues. Within the United Kingdom there are various regional and national initiatives to support doctors, however local support is variable, particularly in district general hospitals. Paediatric and neonatal doctors often work isolation, rarely getting the opportunity to share experiences and discuss difficulties with colleagues.

**Summary of Work:** We introduced a monthly peer-led meeting with a set agenda addressing both positive and negative aspects (clinical and non-clinical) of working life, inviting all paediatric and neonatal junior doctors. A consultant was designated to oversee the project, and attended one meeting every three months. In conjunction with this we introduced Encouraging Praise in Colleagues (EPiC), a positive feedback mechanism where members of the healthcare team were encouraged to provide feedback on examples of good clinical and personal practice. Specific time during the meeting was dedicated to planning departmental social events. We distributed a modified Copenhagen Psychosocial Questionnaire at the start of the project and after 6 months of Holding Hands meetings.

**Summary of Results:** There were 16 attendees to the meetings, 60% completing questionnaires. Likert scales were used to measure a number of outcomes; in comparison to the pre-meeting questionnaire less people felt there was an uneven distribution of work, more people felt supported by colleagues, motivated, involved in work and that they had positive feedback from seniors. 88.9% knew where they could find support for an emotionally challenging situation. We also gained qualitative data confirming that this initiative has been helpful to attendees.

**Discussion and Conclusions:** To be able to deliver the excellent levels of care we want to provide to patients, we have a responsibility to look after our own and our colleagues' wellbeing. Holding Hands and EPiC have provided a safe, supportive atmosphere for trainees to develop and improve resilience, equipping them with the emotional skills to be able to handle the pressures of clinical work.

**Take-home Messages:** Peer-led interventions can help improve motivation, feelings of support and general satisfaction in the workplace.

## #8R Short Communications - Postgraduate Education 4

### 8R3 (210)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.16, Level 0

### The conceptualization of educational supervision amongst supervisors and residents in a postgraduate psychiatry residency training program

#### AUTHOR(S):

- Lay Ling Tan, Changi General Hospital, Singapore (Presenter)
- Pim Teunissen, Maastricht University, the Netherlands
- Wee Shiong Lim, Tan Tock Seng Hospital, Singapore

#### ABSTRACT

**Background:** Supervision is central to the development of expertise in psychiatry, where counselling skills can be mastered only with effective supervision and mentoring. Adoption of competency-based psychiatry residency training and its emphasis on assessment of competencies may have blurred the roles of educational supervision. To understand how supervisory roles may have been affected, conceptualizations of educational supervision amongst supervisors and residents were explored in this study.

**Summary of Work:** A qualitative research strategy was adopted. Individual in-depth interviews using a semi-structured interview guide with a purposive sample of 6 supervisors and 6 newly graduated residents were conducted. Transcripts of the interview were analyzed and coded using the Atlas Ti software.

**Summary of Results:** A thematic analytic approach led to the identification of 5 major themes: (1) meaning and definition of supervision; (2) expectations and responsibilities of the educational supervisor; (3) personal and professional development of residents in supervision; (4) mentoring elements in educational supervision and (5) enablers and inhibitors of the residency supervisory framework.

**Discussion and Conclusions:** Supervisors and residents perceived educational supervision narrowly to be transactional with acquisition of knowledge and skills, but residents yearned for more relational interactions. Emphasis on assessment of competencies might have contributed to tension and lack of a mentoring role. This might affect residents' personal and professional identity development in their psychiatry training. This study showed a lack of clarity with regards to the roles and functions of supervisors in educational supervision. It also identified a lack of a mentoring orientation in supervision in the psychiatry residency training program.

**Take-home Messages:** An unclear understanding of the roles and functions of educational supervision with a lack of a mentoring orientation may affect the personal and professional identity formation of the residents in the psychiatry residency training program.

## #8R Short Communications - Postgraduate Education 4

### 8R4 (1417)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.16, Level 0

### Competency-based medical education training and evaluation in the field of clinical microbiology laboratory

#### AUTHOR(S):

- Wen-Shyang Hsieh, Department of Medical Laboratory, Taipei Medical University-Shuang Ho Hospital, Taiwan (Presenter)
- Tzu-Ying Lee, Department of Medical Laboratory, Taipei Medical University-Shuang Ho Hospital, Taiwan
- Ruo-Tzu Li, Department of Medical Laboratory, Taipei Medical University-Shuang Ho Hospital, Taiwan
- Horng-Ming Hsieh, Department of Medical Laboratory, Taipei Medical University-Shuang Ho Hospital, Taiwan
- Yin-Tai Tsai, Department of Medical Laboratory, Taipei Medical University-Shuang Ho Hospital, Taiwan

#### ABSTRACT

**Background:** The traditional education could not respond to the complex environment of medical laboratory. It also could not make laboratory scientists who finished the post graduated year (PGY) training got the professional ability in expected, especially in the field of clinical microbiology laboratory. The inference of entrusted profession activities (EPAs) could apply in creating the training courses of medical laboratory and also achieve the goal of competency-based medical education (CBME).

**Summary of Work:** To implement the CBME by the planned methods fitting the functional power of EPAs, and be used as a way of evaluating in clinical microbiology teaching and training. Combining the six core abilities of ACGME and milestone schedules, the training plan would get the achievement of the competency in clinical service.

**Summary of Results:** Abandoning the traditional scoring or the ranking assessments, and then using the description of supervision and trust level, the training objectives, clinical testing business and patient safety links. In addition, the reliability and validity of the assessment can also be improved by the evaluator focusing on the clinical task and supervision level, which improves the disadvantages of past clinical evaluation and the confusion of the evaluator.

**Discussion and Conclusions:** At present, the PGY training for medical personnel education is a fixed time schedule. It is impossible to recognize or consider the speed difference of PGY acquisition ability. Through CBME and EPAs, consider whether to prepare for independent execution of the business, and change the regular training of PGY from a certain period of time to a certain level of ability. Let the medical laboratory scientists who started the independent inspection business has a steady technical level.

**Take-home Messages:** CBME in the clinical microbiological tasks and implementation, through EPAs to reduce the gap between classroom learning and workplace practice. It gradually increases the participation and responsibility of PGY trainees, and transforms them into competent medical laboratory scientists who perform core clinical tasks, which in turn drives the positive development of modern medical education.

## #8R Short Communications - Postgraduate Education 4

### 8R5 (893)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.16, Level 0

### A dramaturgical analysis of a paediatric team handover

#### AUTHOR(S):

- **Stephen Bradley, Lakes District Health Board, New Zealand (Presenter)**
- Aaron Ooi, University of Auckland, New Zealand
- Kerry Stafford, Lakes District Health Board, New Zealand
- Shuvayon Mukherjee, University of Auckland, New Zealand
- Marcus Henning, University of Auckland, New Zealand

#### ABSTRACT

**Background:** Paediatric team handovers comprise the transfer of patient information from one shift to another and involve medical professionals and students and nursing staff at different levels of experience. The research question was: 'How can a dramaturgical investigative approach be feasibly applied to describing and researching the handover process within a paediatric setting?'

**Summary of Work:** A qualitative case study was performed using a dramaturgical approach to capture one handover session in a New Zealand paediatric department. Data were collected using video and audio recordings and notes were created by two independent observers. The handover had 15 participants who discussed 36 real patients. Data analysis consisted of qualitative review and quantitative assessment (voice-occupied time and number of contributions). The classification system included actors and audience, audience reaction, scripting, staging and performance.

**Summary of Results:** The consultant in charge spoke for 23% of the handover, whilst the senior registrar spoke for 15% of the time. The remaining 13 attendees were classified as either major support actors, support actors or bit actors. Those who spoke for less than 5% of the time were deemed both bit actors and audience. The performance revealed a clinical hierarchy and the students were included in the discussion mainly when a learning point was emphasised. The script was often improvised when discussing patient care or education for junior personnel. The staging included the seating arrangements, whiteboard and data show.

**Discussion and Conclusions:** The findings confirmed the efficacy of the dramaturgical research approach. The video and audio recordings and the observer notes enabled researchers to review the handover system. Paediatricians not involved in the handover were able to independently view the handover video, read the transcript and make informed notes based on experience and expertise. These findings have implications for evaluating clinical education practices.

**Take-home Messages:** The dramaturgical approach could be applied to many clinical meetings, and used as either a research method or for audit purposes. The study identified a significant hierarchy within this team and suggested a strong educational purpose to the paediatric handover, which may have implications for how teams interact.



## #8S Short Communications - Gender

### 8S1 (542)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1400-1415

**Location of Presentation:** Room 0.51, Level 0

### The potential impact of a pending labor law on young doctors in Japan: an analysis of national microdata from biennial government surveys (1996-2016)

#### AUTHOR(S):

- Kayo Fukami, National Institute of Technology, Toba College, Japan (Presenter)
- Yasuko Tomizawa, Tokyo Women's Medical University, Japan

#### ABSTRACT

**Background:** Women account for over 30% of all doctors in Japan, and an increasing number of women are choosing to become surgeons while overall surgeon numbers decrease. The government has tried to improve the current working environment, including maternity/parental leave. However, 90% of university hospitals and 80% of hospitals with emergency services still have at least one doctor working over 1920 hours/year. In addition, the government is considering the introduction of a new law that would allow trainees and doctors in major hospitals to work up to 2000 hours/year of overtime. This new law is likely to affect medical students' career choices and younger doctors' work-life balance. We investigated the potential impact of this law on the working environment based on national microdata.

**Summary of Work:** We performed a cross-sectional and time-series analysis. Closed microdata on doctors' age, sex, specialty, appointment, and location were obtained from the 'Survey of Physicians, Dentists and Pharmacists', which includes data from all doctors registered in Japan. Data on working hours were acquired from Ministry of Health, Labour and Welfare publications, and details of the new law were obtained from the official proceedings of the legislative working group.

**Summary of Results:** In 2016, 18.4% of all doctors worked for university hospitals. A total of 721 doctors were on maternity leave (40% in university hospitals and 60% in other hospitals/clinics). In general, younger doctors prefer to work for university hospitals to develop their skills. However, the new law will allow trainees and doctors in major hospitals (mostly university hospitals) to work 7-8 hours/day of overtime. The government has set minimum standards for avoiding death from overwork and letting doctors sleep 6 hours/day, but these already exceed the official limits for preventing work-related injuries and illnesses.

**Discussion and Conclusions:** The new law would worsen the working environment, especially for younger female doctors. Younger doctors may choose to avoid working for university hospitals or have to accept a less-than-ideal career path.

**Take-home Messages:** Policymakers must implement extensive changes to provide a good working environment in Japan to ensure the optimal development of young doctors.

## #8S Short Communications - Gender

### 8S2 (1177)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1415-1430

**Location of Presentation:** Room 0.51, Level 0

### The '5x5 Approach' for clinical reasoning has larger effect on male than female residents

#### AUTHOR(S):

- Hisashi Shimozono, Tokyo Medical and Dental University, Japan (Presenter)
- Makoto Takahashi, Tokyo Medical and Dental University, Japan
- Yujiro Tanaka, Tokyo Medical and Dental University, Japan

#### ABSTRACT

**Background:** According to the Dual Process theory, clinical reasoning consists of 2 processes: System 1 (intuitive) and System 2 (analytical). Some psychology researchers suggest that males tend to depend more on System 2 process and females more on System 1 process. Our new model of clinical reasoning, the '5x5 Approach', is a combination of 2 views: 5 organs (brain, heart, lung, intestine/liver, kidney), and 5 systems (metabolism, endocrine, blood/tumor, infection, immune). As this is a model of System 2 reasoning based on these 2 views, we hypothesize that the 5x5 Approach has larger effect on male than female residents on clinical reasoning.

**Summary of Work:** Participants were PGY1 residents (n=106; male=62, female=44). The participants were randomly assigned to either the 5x5 Approach group (n=46; male=26, female=20) or a control group (n=60; male=36, female=24), using the scores on the medical licensing examination. The 5x5 Approach group had a one-hour lecture of the 5x5 Approach, and the control group had a non-related lecture. After the lecture, the participants had a written test which asked for diagnoses for 3 clinical cases. We compared the number of correct diagnoses (0~3) between the male and female participants.

**Summary of Results:** There was neither significant sex difference nor between-group difference in the scores on the medical licensing examination. In the control group, the number of correct diagnoses (0~3) was not significantly different between the male and female participants (median 1 vs 1, p=0.245, by Mann-Whitney U test). In the 5x5 Approach group, the number of correct diagnoses was significantly higher in the male participants (median 2) than females (median 1) (p=0.002).

**Discussion and Conclusions:** The 5x5 Approach as a model of System 2 reasoning has significantly larger effect on male than female residents on diagnostic accuracy. There would be a chance that the 5x5 Approach helps struggling male residents in clinical reasoning.

**Take-home Messages:** The 5x5 Approach as a model of System 2 reasoning has large effect on male residents, who are considered to have an analytical tendency.

## #8S Short Communications - Gender

### 8S3 (1412)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1430-1445

**Location of Presentation:** Room 0.51, Level 0

### Can published information from research impact on unwanted differential performance by candidate sex? A six-year review of attempts to reduce male/female differential performance in a national family

#### AUTHOR(S):

- **MeiLing Denney, RCGP, UK (Presenter)**
- Richard Wakeford, Hughes Hall, university of Cambridge, UK
- Rich Withnall, RCGP, UK

#### ABSTRACT

**Background:** Mandatory MRCGP examinations comprise a 200-item MCQ applied knowledge test, a 13-station clinical OSCE using simulated patients, and workplace-based assessments. A daily-palette of OSCE cases is balanced from a curriculum blueprint. Examiners score candidates on three domains (data gathering, clinical management and interpersonal skills) leading to a case score of 0-9. Recently, interest in differential performance on UK postgraduate examinations focussed on degree source (domestic/foreign) and candidates' ethnicity. But differential performance by candidate sex is substantial: in 2017-18, first-attempt male candidates failed the OSCE 1.7 times more than women. UK assessments have duties under the Equalities Act (2010) to work to minimise differences in candidate performance between groups 'protected' by the Act, including sex. Assessments in 2012-2013 showed substantial overall performance differences by candidate sex: two (of 24) OSCE curriculum areas showed highest such differential performance – 'women's health' and 'sexual health'. The report, published in 2014, proposed greater emphasis on consultation skills training, attending to trainees' case mix, and longitudinal monitoring studies. Here we review the situation four years later.

**Summary of Work:** We contrasted candidates' differential case performance by their sex across two triennia " 2012-14 ('before') and 2015-17 ('after') " overall, and on the two areas of 'women's health' and 'sexual health'. We examined performance on the three domains by sex, overall.

**Summary of Results:** 15,007 candidates first sat the CSA between November 2012 and December 2017, seeing 195,091 cases (81,692 2012-14; 113,399 2015-17): 63.7% were women, 36.3% men. Differential performance by sex reduced substantially and significantly from the first to the second triennium, both overall (17%) and on the two identified curriculum areas (by 8-9%). Overall domain score sex differences all reduced by 14-18%, remaining highest on interpersonal skills.

**Discussion and Conclusions:** Providing specific information on trainee sub-groups' performance on examinations and concerning curriculum areas was associated with reduction in the differential. As often, cause and effect cannot be proven. Work on lessening interpersonal skills differences and signposting male trainees to gynaecology and sexual health should be reinforced.

**Take-home Messages:** Training initiatives to reduce differential performance between candidate sub-groups may provide a positive impact.

## #8S Short Communications - Gender

### 8S4 (2535)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1445-1500

**Location of Presentation:** Room 0.51, Level 0

### Implementing intersectionality in the general practice curriculum of the model study program at the Hannover Medical School

#### AUTHOR(S):

- Kambiz Afshar, Hannover Medical School, Germany (Presenter)
- Stephanie Stiel, Hannover Medical School, Germany
- Nils Schneider, Hannover Medical School, Germany
- Petra Verdonk, Hannover Medical School; Amsterdam UMC-VUmc, the Netherlands

#### ABSTRACT

**Background:** An intersectional perspective states that individuals' (biological) sex, (sociocultural) gender and other aspects of diversity including age, cultural background, race, and sexual orientation shape each other and create unique social positions that play a role in health/health care. Medical curricula should prepare students to become culturally competent physicians with the knowledge, skills, and attitudes required to deliver adequate health care to patients with diverse backgrounds. In this project, we implement intersectionality in the general practice curriculum of the model study program at the Hannover Medical School (MHH) and evaluate the implementation process.

**Summary of Work:** A gender and diversity expert from Amsterdam, funded by the Lower Saxony government Maria-Goeppert-Mayer-Program for a visiting scholar, visits the Institute for General Practice at the MHH from January to June 2019. Intersectionality will be implemented in the module general practice of the 3rd academic year. The implementation process will be evaluated by a pretest-posttest-design in two successive trimesters. An iterative participatory approach will comprise six steps: (1) Participatory observation of the module; (2) Screening existing educational material in project group meetings; (3) Presenting an interim evaluation report to a larger group of teachers to discuss revision of educational material; (4) Revising educational material during and after a teach-the-teacher workshop in collaboration with students; (5) Expert monitoring of the same module in the next trimester to analyze the change process; and (6) Discussing/drafting a final evaluation report to ensure sustainability. Additionally, students will take part in an anonymous survey in each trimester to assess if the general practice curriculum increases the understanding of how intersectionality influences health/health care.

**Summary of Results:** Process evaluation will outline challenges and opportunities for implementing intersectionality in a medical curriculum. Survey results will reveal if the implementation process affects students' understanding of intersectionality.

**Discussion and Conclusions:** Project evaluation will provide insight in process and outcomes of a participatory approach to mainstreaming intersectionality in medical education.

**Take-home Messages:** Implementing intersectionality in medical curricula is an important step to promote adequate health care to patients with diverse backgrounds. External funding allows for expert support in tailoring mainstreaming activities.

## #8S Short Communications - Gender

8S5 (1957)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1500-1515

**Location of Presentation:** Room 0.51, Level 0

### “I have no choice but to challenge myself”: Masculinities and professionalism behind Ikumen-movement among male physicians in Japan

#### AUTHOR(S):

- Noriki Kamihiro, Medical Education Center, Kyoto University, Japan (Presenter)
- Futoshi Taga, Department of Education and Culture, Faculty of Letters, Kansai University, Japan
- Junichiro Miyachi, Hokkaido Centre for Family Medicine / Medical Education Center, Kyoto University, Japan
- Tomoko Matsui, Nagoya University Graduate School of Medicine, Japan
- Hiroshi Nishigori, Medical Education Center, Kyoto University, Japan

#### ABSTRACT

**Background:** In Japan, a nationwide discussion over physicians work hours and heated arguments over gender equality provoked by Tokyo Medical University's admission process have challenged the received notion of the ‘work’ of male physicians. The greatest amount of public attention and the greatest challenge to received notions of masculinity have involved male physicians who are ikumen, or fathers actively involved in childrearing. A similar term in English is caring masculinity, which indicates a male's style of engaging in childrearing activity, which is traditionally viewed as ‘feminine’. Contemporary sociological studies perceive caring masculinity as a shift away from hegemonic forms of masculinity; however, some scholars consider caring masculinity as merely a broadened version of hegemonic masculinity. Thus, we pose the following questions: How are ikumen doctors viewed in Japan? How do doctors experience professional and family lives? What kind of ethos undergirds their experience?

**Summary of Work:** Eleven male Japanese physicians who participate in daily childrearing were included through purposive sampling. Data collected through one-to-one semi-structured interviews were interpreted with a narrative inquiry method.

**Summary of Results:** Most interviewees remained in partial or ‘escapable’ childrearing roles under their wives’ Primary Caregiver (PC) roles. They situated themselves within traditional gender divisions, maintaining notions of what physicians’ ‘should-be’. These interviewees therefore embody ikumen as a broadened form of hegemonic masculinity. A male physician undertaking a PC role focuses his work style on the quality of contribution within a limited time rather than his innate macho attitude of ‘challenging myself’ or ‘completing stages’. The adoption of a PC role creates a sense of insufficient or inferior masculinity in the workplace. We identify the ethos that engenders the dilemma facing male physicians and which they learn as medical professionalism and traditional hegemonic masculinity.

**Discussion and Conclusions:** We argue that ikumen superficially pursued gender equality and ironically maintained or even reinforced hegemonic masculinity by subordinating male physicians undertaking PC activities at the workplace.

**Take-home Messages:** When discussing diversity in physicians’ working lives, we argue that physicians’ ethos and sense of professionalism should be considered.



## #8S Short Communications - Gender

**8S6** (1592)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1515-1530

**Location of Presentation:** Room 0.51, Level 0

### Transgender people teaching medical students about transgender health: a mixed methods evaluation

#### AUTHOR(S):

- Anne Swift, University of Cambridge, UK (Presenter)
- Martha Hawker, University of Cambridge, UK
- Debbie Critoph, University of Cambridge, UK

#### ABSTRACT

**Background:** Approximately 1% of the UK population identifies as transgender (Winter et al, 2016), making it highly likely that all doctors will care for transgender people at some point in their career. There is a lack of medical school teaching on gender diversity in the UK, and there is evidence that students lack confidence in practical aspects of caring for transgender patients (Parameshwaran et al, 2017). We developed a student-led educational intervention that involved trans people in design and delivery with the aims of improving student knowledge, attitudes (if necessary) and confidence in caring for transgender people.

**Summary of Work:** We developed a short educational intervention comprising large group teaching on factual aspects followed by a discussion of issues by a panel of transgender people recruited from the local community. Teaching effectiveness was measured by pre/post ratings. Qualitative interviews were undertaken with panel members to understand participants' experience.

**Summary of Results:** 100% of students who provided evaluation (N = 19, 27%) rated the teaching as either 'excellent' or 'very good'. There was a significant increase in overall mean knowledge score and a highly significant increase in overall scores for student confidence in caring for transgender patients ( $p < 0.0001$ ). Two key themes emerged from panellist interviews: that involvement in teaching is a positive experience for transgender people, and that human relatability is key to effective teaching and learning.

**Discussion and Conclusions:** We have demonstrated that a short educational intervention is effective in increasing medical students' knowledge and confidence in caring for transgender patients, and that being involved in developing and delivering such teaching is positive for transgender people. In particular 'being in the room' as a fellow human being is key for a positive learning experience. As this was undertaken in a single school we now need to examine whether these results are generalizable.

**Take-home Messages:** Short, large group teaching sessions can improve student knowledge and confidence in caring for transgender people. Involvement of transgender people in teaching delivery is positive for both students and members of the trans community.

## #8T Round Table – Threshold Concepts

### 8T1 (2370)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Room L5, Level 1

### Threshold Concept-Based Transition Pedagogy in Pathway Programs Supporting Students' Transition into Allied Health Degrees

#### AUTHOR(S):

- **Shaimaa Atwa, Western Sydney University, Australia (Presenter)**
- Elizabeth O'Connor, Western Sydney University, Australia
- Iman Hegazi, Western Sydney University, Australia

#### ABSTRACT

Student numbers continue to rise in higher education worldwide. As a result, increasing numbers of students entering first-year university are under-prepared for the significant challenges of post-school study, particularly students who have traditionally been under-represented in the higher education context. Universities have addressed this by developing sophisticated strategies to tackle retention and attrition rates. In an Australian context, however, it is not clear if attempts by universities to address attrition rates have succeeded as recent numbers indicate that rates continue to rise. This rise in attrition is a multi-dimensional global phenomenon. Students' transition to university is an indication for the successful completion of a degree. The College, at Western Sydney University, provides pathway programs for students who enter with low high school scores. These pathway students' transition into Allied Health university degrees. Transition pedagogy can support these students in the successful and sustainable transition to university. Transition pedagogy represents a curriculum-mediated approach intentionally designed to address the phase of 'transition'.

This project aims to develop a threshold concept (TC) framework and use it to re-design transition pedagogy. By focusing on challenging yet transformative concepts, the developed framework would help move students through the threshold portal opening up a new and previously inaccessible way of thinking which helps them to progress. Though there has been ongoing research in different disciplines relating to TC, this project intends to take a further step, to developing a TC Framework in the Allied Health Science discipline. We hypothesize that by reducing curriculum content within a Health Science unit, while still maintaining disciplinary-specific scholarship, and by involving students in the co-authorship, we may enhance students' performance and experience in transitioning into university. The project will adopt a co-constructive approach which empowers the students in their transition.

## #8T Round Table – Threshold Concepts

### 8T2 (3025)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Room L5, Level 1

### Getting Practical: What Can We Do with Threshold Concepts in Medical Education?

#### AUTHOR(S):

- Janice Hanson, Washington University in St. Louis School of Medicine, USA (Presenter)
- Virginia Randall, Uniformed Services University of the Health Sciences, USA
- Meghan Treitz, University of Colorado School of Medicine, USA
- Daniel Nicklas, University of Colorado School of Medicine, USA
- Hilary Neve, Plymouth University Peninsula Schools of Medicine and Dentistry, UK

#### ABSTRACT

A threshold concept is an idea that, once grasped, changes the way learners think about themselves. The concept cannot be forgotten and may be emotionally difficult. An example is, “Medicine is rarely black and white.” Through experience, learners see the fallibility of healthcare professionals, but may struggle to accept their own fallibility, still hoping they can know everything and never make a mistake. Identifying threshold concepts may help educators support learners through the challenges of becoming a healthcare professional and can guide the formation of curriculum and learning environments.

The presenter will discuss how to prepare learners for encountering threshold concepts; what strategies will help those learners who struggle at the threshold of a concept; how can we facilitate thoughtful reflection about threshold concepts among our learners; and what aspects of the hidden curriculum may help or hinder learners to “get over the threshold”.



## #8T Round Table – Threshold Concepts

### 8T3 (2357)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Room L5, Level 1

### Coaching Learners Towards Formulating Professional Identity Using Threshold Concepts in Professionalism

#### AUTHOR(S):

- Parag Jain, Baylor College of Medicine and Texas Children's Hospital, USA (Presenter)
- Audrea Burns, Baylor College of Medicine and Texas Children's Hospital, USA

#### ABSTRACT

Professional identity formation (PIF), which involves development of professional values, actions and aspirations, has been prescribed as a major focus of medical education by the Carnegie Foundation. However, these professional values are often taught through hidden curriculum, often without a structured guided reflection.

The presenter will discuss how Threshold Concepts (TC), which opens a new and previously inaccessible way of thinking about something, can be used as a tool to coach learners how to improve upon lapses around professionalism and enhance one's PIF.

## #8U Conference Workshop

### 8U

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room L8, Level 1

### A Speed Mentoring Workshop: A venue for health professions educators to network and seek advice from experts

#### PRESENTER(S):

- Subha Ramani, Harvard Medical School, Boston, USA
- Helena Filipe, University of Lisbon, Portugal
- Alice Fornari, Northwell Health, Hofstra University, New York, USA
- Richard Hays, James Cook University, Tasmania, Australia
- David Irby, University of California San Francisco, USA
- Rashmi Kusrkar, Amsterdam UMC, Vrije Universiteit Amsterdam, the Netherlands
- Judy McKimm, Swansea University School of Medicine, UK
- Gary Rogers, Griffith University, Queensland, Australia
- Teri Turner, Baylor College of Medicine, USA
- Margaret Chisolm, Johns Hopkins University, USA
- Elizabeth Kachur, Global Consulting, New York, USA
- Patricia O'Sullivan, University of California, San Francisco, USA
- Daniel Schumacher, University of Cincinnati, USA
- Harish Thampy, University of Manchester, UK
- Keith Wilson, Dalhousie University, Canada

**Background:** Health Professions Educators today have several directions along which they can develop expertise, take on leadership roles and advance in their careers. It can be overwhelming for novice educators to pinpoint where their passion lies, where their institutional values align with their own, how and where they can develop needed expertise and what opportunities exist for leadership and scholarship. AMEE is excited to present its first speed mentoring workshop at the 2019 meeting in Vienna. The workshop will allow novice and aspiring as well as mid-career health professions educators to network with several internationally renowned experts and leaders in the field in a dynamic and fun setting. Mentors will encourage mentees to identify strengths as well as gaps in their skillset important for career advancement and generate solutions to perceived hurdles to professional growth. Learning from peers will also help participants to formulate next steps. Such a format can allow AMEE conference participants to build longitudinal relationships should they choose to do so.

#### Who should attend:

- Experienced educators who aim to nurture the next generation of educators and help them in their professional growth.
- Trainees and faculty who seek guidance on various aspects of their professional development as educators.

#### Structure of workshop:

- Brief introductions of mentors
- Discuss session goals, agenda, key elements of speed mentoring
- Rotating stations- 20 min at each table
  - In groups participants will rotate through tables (like OSCE stations) where specific topics in educational career development will be discussed. Participants will be able to complete a total of three 20- minute 'consulting' sessions
  - 3 mentors per table
    - 15 min for questions from participants and suggestions from mentors
    - Mentors wrap up with quick tips for success in that topic area
- The workshop will conclude with Q and A and thoughts on AMEE mentoring initiatives
- Table topics
  - Planning a career in education/early career decision making- Thampy, Filipe, Ramani
  - Becoming educational leaders- Hays, McKimm, Irby
  - Getting into education and/or education research- Kusrkar, O'Sullivan, Schumacher



- Mid-career development- being promoted as an educator- Chisolm, Wilson, Turner
- Organizing faculty development and CPD for educators- Fornari, Rogers, Kachur

**Intended outcomes:**

- Mentors will provide insights on career challenges and factors that contributed to their success.
- Mentees will seek advice on perceived challenges to their growth as educators and strategies for successful professional development.
- Identify core attributes and obligations of mentors as well as responsibilities of mentees seeking to grow in their chosen area of educational expertise.
- Participate in a mentoring session different than the traditional single mentor-mentee dyad.
- Propose key elements in designing and implementing effective AMEE mentoring programs.

**Level:** All



## #8V Conference Workshop

8V (2726)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 0.11-12, Level 0

### How Can Students Improve Your Medical School Curriculum?

#### PRESENTER(S):

- Catarina Pais Rodrigues, International Federation of Medical Students Associations
- Katerina Dima, International Federation of Medical Students Associations
- Silvia Matilda Astefanei, International Federation of Medical Students Associations
- Tao Le, Scholar Rx, USA

#### ABSTRACT

**Background:** Some educators have long argued for students' active engagement in the learning and teaching processes, so they become responsible for their own education. Traditionally, curriculum planning represents the territory of academic staff and faculty, with students having a more passive role. By encouraging students to become active designers and evaluators of their own learning, they improve a medical school's course structure and content. This enhances students' and educators' experiences of learning by producing a dynamic process of teaching, pushing the student's role to go beyond being merely course evaluators. Our workshop features interactive presentations with case studies of medical school curriculum programs where students are actively involved in the course design process, identifying strategies through which medical students and faculty can work together to implement curricular changes. Hence, students are empowered to take an active role in improving their educational experience.

**Who Should Attend?** Anyone with an interest in meaningful student engagement.

#### Structure of Workshop:

Introduction (10 min): Introduce panel and participants' goals.

Principles (20 min): Discuss benefits and challenges of having active student participation in the curriculum creation process. Present participation models from different schools with the respective approaches.

Application (30 min; small groups): Participants discuss medical curriculum needs at their home institutions, developing a plan to address it.

Discussion (20 min): Presentation of curriculum challenges and proposed solutions. Discuss benefits and obstacles to implementation.

Wrap up (10 min): Revisiting workshop goals and providing a brief summary that can be applied at participants' home institutions.

**Intended Outcomes:** The workshop will examine models and strategies of medical student involvement in curriculum design, so schools can move towards a paradigm where students are encouraged to actively contribute to their own learning. Consequently, we expect participants to be able to

- 1) discuss and describe learning models,
- 2) identify how students initiatives may be structured and implemented
- 3) discuss challenges and obstacles related to student involvement.

**Level:** All

## #8W Conference Workshop

### 8W (2971)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 0.49-0.50, Level 0

### The A-Z of Curriculum Mapping : Pedagogy to Implementation

#### PRESENTER(S):

- Colin Lumsden, University of Manchester, UK
- Lucie Byrne-Davis, University of Manchester, UK
- Hilary Dexter, University of Manchester, UK
- Timothy Cappelli, University of Manchester, UK

#### ABSTRACT

**Background:** Curriculum Mapping provides an opportunity for programmes to outline their intended learning outcomes with internal or external outcomes. By doing so curriculum designers and curators are able to plan and visualise the curriculum in ways never previously possible. We will introduce the basics of curriculum mapping taking participants from pedagogy to identifying the structure of their curriculum and finally to mapping their programmes to outcome taxonomies (eg General Medical Council Outcomes). We will demonstrate how this process can lead to the visualisation of the curriculum on the Manchester Curriculum Mapping Tool and how it can be embedded in learning resources to provide a single post of truth. The curriculum mapping tool was developed by the University of Manchester and is now being implemented in 6 UK medical schools.

**Who Should Attend?** Curriculum Designers; Instructional designers; Programme Directors; Curriculum Managers; Assessment directors and managers

**Structure of Workshop:** This will be an interactive workshop where participants will be guided on the process of curriculum mapping and work through their own examples in order to appreciate the challenges and benefits of mapping.

- 1) Introduction to curriculum mapping
- 2) Identifying the components that make up curricula
- 3) Categorising the identified components
- 4) Identifying taxonomies (eg GMC, Assessments, MLA outcomes etc ..)
- 5) Mapping sample outcomes to the identified taxonomies
- 6) Visualisation of the mapping exercise on the live curriculum mapping system

#### Intended Outcomes:

- 1) Define the purpose of curriculum mapping and underlying pedagogy
- 2) Identify and define taxonomies
- 3) Identify and categorise course structure in preparation for curriculum mapping (components, activities, units of time)
- 4) Be able to map sample learning outcomes to identified taxonomies
- 5) Describe the systems available for mapping and how they can be used to enhance the student experience

**Level:** Beginner to intermediate. Attendees should be familiar with the principles of outcomes based curricula, learning outcomes and be familiar with their own programmes

## #8X Conference Workshop

### 8X (808)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 0.96-97, Level 0

### Development of Institutional Assessment Framework: Practical Approaches for Postgraduate Education

#### PRESENTER(S):

- Hui Meng Er, International Medical University, Malaysia
- Vishna Devi Nadarajah, International Medical University, Malaysia
- Noraidah Yusoff, International Medical University, Malaysia

#### ABSTRACT

**Background:** Assessment activities in postgraduate training often involve non-clinical and clinical faculty and/or health professionals from various disciplines, full time or part time modes and sharing of institutional learning resources. In some circumstances, assessment regulations may be generic in the university, not differentiating undergraduate and postgraduate programmes. These factors can contribute to poor implementation of assessment principles and varied assessment practices, leading to barriers in improving assessment quality and operational efficiency. As a result, the educational experience of students will be affected. The challenges can be addressed by having a common institutional assessment framework which specifies the institutional philosophy, governance, quality and standards of assessment. It ensures that the institutional assessment system is reliable and valid to produce competent graduates. Moreover, it facilitates the institution's resource planning including faculty development and assessment quality assurance activities.

**Who Should Attend?** This workshop will be useful for university regulators, examination administrators, quality assurance personnel, academic programme coordinators, faculty and accreditation bodies.

#### Structure of Workshop:

- Introduction and context (15 minutes)
- Features of institutional assessment framework for pg education (45 minutes)
  - Purpose
  - Requirement features
- Approaches for development of institutional assessment framework (30 minutes)
  - Stakeholders
  - Potential challenges
  - Practical approaches
- Concluding remarks (15 minutes)

**Intended Outcomes:** Participants will be able to:

1. identify the features required for an institutional assessment framework
2. propose practical approaches for developing an institutional assessment framework based on institutional context, stakeholders and challenges

**Level:** Intermediate (with previous knowledge on basic principles of assessment)

## #8Y Conference Workshop

8Y (2210)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.17, Level 2

### Young Medical Educators' Workshop: Taming Wicked Issues with Adaptive Action

#### PRESENTER(S):

- Sören Huwendiek, Institute for Medical Education, Department for Assessment and Evaluation
- Stewart Mennin, Human Systems Dynamics Institute, USA
- Monica van de Ridder, College of Human Medicine Michigan State University / Spectrum Health, USA
- Charlotte Ringsted, Centre for Health Sciences Education, Denmark

#### ABSTRACT

**Background:** Succeeding as a young medical educator is challenging and involves complex relationships. Junior staff are often assigned difficult administrative and educational tasks. These are “wicked issues” because they share three key characteristics because they: 1) are defined and understood differently from multiple perspectives; 2) are context dependent yet show similar patterns across different contexts and; 3) are impossible to solve with traditional problem-solving methods (Rittel & Webber, 1973). Examples include: providing education in time-poor clinical settings; junior teachers learning on the job; research expectations without support; implementing new technologies and strategies. The workshop will provide young medical educators with an “alternative” to traditional problem-solving methods. Adaptive Action, an iterative process will be used to help tame participants wicked issues.

**Who Should Attend?** Young medical educators interested in learning to identify and tame their wicked issues.

**Structure of Workshop:** A brief (10 min) introduction to wicked issues and adaptive action, followed by open space technology to self-organize into groups of shared interest (15 min). Participants will record their adaptive actions on flip charts. We conclude with collecting, sharing and reflecting on what was learned, and next steps upon returning home.

**Intended Outcomes:** Workshop participants will be able to identify their wicked issues and apply Adaptive Action.

**Level:** Medical Educators in their early career



## #8Z Conference Workshop

### 8Z (467)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.44, Level 2

### How to use Technology to Demonstrate Scholarship in Medical Education - an AMEE TEL Committee workshop

#### PRESENTER(S):

- Poh Sun Goh, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
- John Sandars, Edge Hill University, UK
- Alexandra Webb, ANU College of Health and Medicine, Australia
- Michael Botelho, The University of Hong Kong, Hong Kong
- Peter de Jong, Leiden University Medical Center, The Netherlands
- Martin Pusic, NYU Langone Health, USA

#### ABSTRACT

**Background:** There are increasing opportunities to demonstrate the scholarship of discovery and the scholarship of teaching by the use of technology. For scholarship of discovery, social media and open access publications offer new opportunities to widely demonstrate research and engage with the wider community of medical educators. For scholarship of teaching, there are opportunities to easily observe and measure a variety of teaching and learning activities. This workshop will highlight examples of how technology can enhance the scholarship of discovery and the scholarship of teaching, but also provides an essential critical space to consider the strengths and limitations of these new opportunities.

**Who Should Attend?** Medical Teachers who are interested in knowing more about, and aspiring to be, a Scholarly Educator and Educational Scholar.

**Structure of Workshop:** This workshop will be highly interactive, supported by a preworkshop blog for preparatory reading and activities, and in workshop discussions and personal reflections.

**Intended Outcomes:** Know, Do and Feel. Participants will know the key ideas, enabling an informed discussion of this topic with colleagues; have an awareness of open access, widely available, free, easy to use, technology platforms to enable them to demonstrate scholarship; and develop a feel for why, what and how to use technology to demonstrate scholarship in medical education.

**Level:** Introductory



## #8AA Conference Workshop

### 8AA (2087)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.61, Level 2

### A Whole New Medical Educator for 2025 and Beyond

#### PRESENTER(S):

- Sheila Crow, University of Miami Miller School of Medicine, USA
- Brownie Anderson, National Board of Medical Examiners, USA

#### ABSTRACT

**Background:** According to a recent report, there are five hard trends that will inform and influence the direction of medical education in the next ten years: 1) on-demand learning; 2) flipped clinics; 3) networked discovery; 4) high-resolution health; and 5) rapid prototyping cycles. These trends, and others, will reshape what students learn and how they are taught. Simpson et al have suggested future medical educators will be expected to be competent in multiple domains, all of which will require the development of new skills and the redesign or expansion of existing skills. This session builds on the current dialogue by addressing the following questions: 1) How might we teach medical educators these new skills? 2) How might we compensate and reward educators for these new roles? 3) How might we create designs to maximize and streamline learning at minimal costs? 4) What additional questions do we need to ask?

**Who Should Attend?** Anyone interested in the evolving role of educators.

#### Structure of Workshop:

20 minutes - Introduction and literature discussion

60 minutes - Each table group will have 15 minutes to develop innovative ideas for how we might address the three main questions described in the introduction, and identify additional questions for moving the conversation forward. Groups will receive one question to address then transition to another after 15 minutes. By the end of the session each table will have addressed the following four questions:

- 1) How might we teach medical educators these new skills?
- 2) How might we compensate and reward educators for these new roles?
- 3) How might we create designs to maximize and streamline learning at minimal costs?
- 4) What additional questions do we need to ask?

Two experienced medical educators will circulate to prompt participants and encourage innovative thinking to address the questions.

10 minutes - Facilitators will select one idea from each question and ask the table that developed the selected idea to present their concept.

#### Intended Outcomes:

- 1) Describe the projected roles of medical educators in 2025 and beyond.
- 2) Propose solutions for preparing medical educators for these new roles.
- 3) Identify additional questions for moving the conversation forward.

**Level:** All levels are invited.

## #8BB Conference Workshop

### 8BB (1569)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.83, Level 2

### The Long and the Short of It - Using Very Short Answer items for Summative Assessment

#### PRESENTER(S):

- Rachel Westacott, University of Leicester, UK
- Amir Sam, Imperial College London, UK
- Celia Brown, University of Warwick, UK

#### ABSTRACT

**Background:** Very short answer questions have recently been piloted and shown to be a reliable method of summative written assessment. They offer increased authenticity compared to single-best-answer (SBA) questions, whilst retaining most of the practicability of SBAs in large scale assessments.

**Who Should Attend?** Anyone interested in gaining and understanding of very short answer (VSA) questions: what they are, the benefits of using VSAs, and what we have learned about the construction and marking of VSAs from a large national pilot.

**Structure of Workshop:** This workshop will share our experience of delivering a successful national pilot of this innovative written assessment method, using a bespoke electronic delivery platform. Just over 1400 final year medical students across 20 UK medical schools took part in this study and this has helped inform practice in the construction and marking of VSAs. There are significant pedagogical reasons for using VSAs as opposed to the traditional single best answer (SBA) format and our study demonstrates the practicability of using this assessment method for large-scale high stakes assessments. The workshop will introduce the concept of VSA questions, explain the pedagogical and practical reasons for using this format and highlight the differences in student performance between VSA and SBA questions. There will be group discussions centred around differences in question construction and standard setting of VSAs relative to SBAs. Examples from our national pilot highlighting questions that perform well in this format alongside potential pitfalls will be shared. Finally, there will be an opportunity to answer some very short answer questions (specific medical knowledge not required), create marking rubrics and consider the standard setting of these items relative to SBAs.

**Intended Outcomes:** Increased understanding of the utility and scope VSAs. Increased understanding of the difference in performance between VSAs when compared to SBAs. Appreciation of the similarities and differences in constructing VSAs as opposed to SBAs. Experience of reviewing VSAs and considering answer rubrics and standard setting.

**Level:** No prior knowledge of VSAs required but prior understanding of SBA construction and use in summative assessments would be beneficial.

## #8CC Conference Workshop

### 8CC (971)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1400-1530

**Location of Workshop:** Room 2.95, Level 2

### Next Generation OSCE Checklists: Crowdsourcing authoring as a tool for developing, modifying and localizing OSCE checklists

#### PRESENTER(S):

- Daniel Salcedo, Center for Education in Medical Simulation, Taiwan
- Che-Wei Thomas Lin, Wanfang Hospital, Taipei Medical University, Taiwan
- Wen-Cheng Huang, Wanfang Hospital, Taipei Medical University, Taiwan
- Barry Issenberg, University of Miami Gordon Center for Simulation and Innovation In Medical Education, USA
- Jen-Chieh Wu, Taipei Medical University Hospital, Taiwan
- Jiann Ruey Ong, Shuang Ho Hospital Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** Crowdsourcing authoring refers to the online collaboration of large numbers of individuals towards achieving a specific goal and has emerged as a major tool for the compilation of data from a wide range of content experts. A notable example of this approach is Wikipedia, one of the largest online information repositories worldwide. The Intelligent Test-generator of Objective Structured Clinical Examination (iTOSCE), is a free web-based application designed to allow the creation and modification of collaborative OSCE checklists through a dedicated crowdsourcing platform. The purpose of this highly interactive workshop is to introduce participants to the concept of collaborative OSCE checklist development through a hands-on experience utilizing a free online crowdsourcing authoring tool.

**Who Should Attend?** Faculty involved in the creation, editing and localization of OSCE checklists, who are interested in improving the quality of their assessments through crowdsourcing authoring.

#### Structure of Workshop:

- 1) Introduction
- 2) Challenges of OSCE Checklist Development: Participants discuss the major challenges of developing effective OSCE checklists and share their findings using an audience response system.
- 3) Best practices in OSCE checklist development: Participants work in small groups to identify best practices of checklist development and the potential benefits of crowdsourcing authoring.
- 4) The iTOSCE: A hands-on tutorial Guided tutorial on how to use the iTOSCE tool (laptop or tablet with WiFi access required for each participant)
- 5) Fix it!: Experiential learning activity in which participants collaborate in online groups to improve an existing OSCE checklist through a crowdsourcing authoring platform.
- 6) Summary and Debriefing: Participants present the outcomes of their online collaboration groups and reflect on their experience.

#### Intended Outcomes:

- 1) Identify common errors in OSCE checklist creation
- 2) Understand best practices in OSCE checklist development
- 3) Implement practices that promote collaborative work
- 4) Use the iTOSCE crowdsourcing tool to create, edit, comment and rate checklist items
- 5) Create a collaborative OSCE checklist utilizing crowdsourcing authoring

**Level:** Intermediate

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DD01 (432)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### From doctor in charge to doctor as coach

#### AUTHOR(S):

- **Maaïke Matulewicz, Amsterdam University Medical Centers, The Netherlands (Presenter)**
- Naomi Ehrlich, Amsterdam University Medical Centers, location VUmc, The Netherlands
- Lianne Both, Amsterdam University Medical Centers, location VUmc, The Netherlands

#### ABSTRACT

**Background:** In the future of health care, more self-management of patients will be necessary. This requires an active patient attitude. Currently a number of patients already manage their own care and use the physician as a sparring partner instead of a doctor in charge. This not only requires new skills from the patient, but also new, specific skills from healthcare professionals: the skills to coach and thus stimulate the active role of the patient.

**Summary of Work:** Medical students from the Amsterdam UMC are being trained to develop these skills. In bachelor year two students participate in five small-group training sessions, focusing on lifestyle change consultations. Main topics of these sessions are two-way traffic in communication, patient resistance, and Motivational Interviewing (M.I.). Students engage in diverse exercises, e.g. trying out M.I. techniques on their teacher (with the teacher disclosing a personal behavioral issue). Students also role-play a consultation, taking on both the role of the doctor and the role of the patient. By taking the position of the patient, they gain personal experience of what increases and reduces patient resistance. They also develop a vision on the importance of patients' contributions to consultations.

**Summary of Results:** Systematic evaluations show a high level of student appreciation for the training sessions. Mean scores range from 3.7 (for 'quality of classes') to 4.5 (for 'the ability to apply two-way traffic in communication') on a 5-point Likert scale. Students report 'growth in M.I. techniques', and the classes to be 'inspiring for learning so many new skills and knowledge'.

**Discussion and Conclusions:** Even though the classes are taught in the bachelor stage and thus might not qualify as 'just-in-time-learning', we consider this the right moment for this training. It is vital for the development of the students' vision on interpersonal patient contact and provides a basis for future communication skills.

**Take-home Messages:** Allowing students to participate in communication classes on lifestyle changes is appreciated by students and offers a suitable opportunity for training bachelor medical students in communication skills, necessary for their role as a coaching doctor.



## #8DD ePosters - Transitions / Interprofessional Practice

### 8DD02 (445)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### “Finding My People”: A Longitudinal Study of Physicians in a Master's in Medical Education Program

#### AUTHOR(S):

- Samuel Rosenblatt, Children's Hospital of Philadelphia, USA (Presenter)
- Donald Boyer, Children's Hospital of Philadelphia, USA
- Dorene Balmer, Children's Hospital of Philadelphia, USA

#### ABSTRACT

**Background:** In health professions education (HPE), professional isolation can negatively impact career satisfaction and longevity. Isolation may be counter-balanced by continuing professional development (CPD) programs that foster a sense of belonging to a community of practice (CoP) among program participants. Ideally, participants engage in other CoPs when the program ends. But how do students in more intensive, degree-granting programs have this same sense of belonging, and how do they navigate other CoPs when the program ends?

**Summary of Work:** To address this research question, we conducted in-depth interviews with 11 physicians (anesthesiology-2, community health-1, medicine-3, neurology-1, pediatrics-2, surgery-2) in a 2-year, executive-format, Master's in Medical Education Program at the University of Pennsylvania, USA. Interviews were conducted at the start, midway through, and 3 months post program (n=32 interviews). We created codes, sensitized by educator identity literature, and iteratively revised codes based on incoming data. We clustered coded data into conceptual categories that described the longitudinal nature of students CoP engagement.

**Summary of Results:** Students in the Master's program consistently reported a sense of belonging to CoP within the program: 'What got me excited initially was identifying that community that we had built in our cohort, folks who were interested in education and developing educational opportunities.' Students described challenges to maintaining this CoP upon graduation: 'It's like the program was a link, and once the program is done, maintaining that link is more difficult.' Nonetheless, they valued, and sought out, other CoPs at local and national levels. 'I have been able to find my people through other ways, through the residency and through this [hospital-based] community.'

**Discussion and Conclusions:** Like CPD programs, Master's programs foster a strong sense of belonging to a CoP while in the program, but students seek other CoPs when the program ends. Continuation of this longitudinal research will address how graduates of the Master's program maintain engagement and minimize professional isolation over time.

**Take-home Messages:** Degree-granting programs in HPE should consider how to support graduates in maintaining a sense of belonging to a CoP as part of a joint effort to minimize professional isolation in HPE.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DD03 (724)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Lessons learnt in the conduct of a pilot interprofessional education program and ward rounds in Singapore

#### AUTHOR(S):

- Oh Moh Chay, KK Women's and Children's Hospital, Singapore (Presenter)
- Derrick Lian, KK Womens and Childrens Hospital, Singapore
- Mislia Supar, KK Womens and Childrens Hospital, Singapore
- Raymond Goy, KK Womens and Childrens Hospital, Singapore

#### ABSTRACT

**Background:** The use of the inter-professional (IP) ward rounds as routine clinical practice is in its infancy in Singapore. The Readiness for Inter-professional Learning Scale (RIPLS) survey in our hospital showed that healthcare providers did not have clear understanding of each other's professional role in patient care. Resultant challenges included the conduct of multiple separate ward rounds, ineffective communications, leading to lapses in transition of patient care, and missed learning opportunities between the professions. This study explores the utility and challenges encountered in the running IP ward round in an acute healthcare setting.

**Summary of Work:** The study was conducted at the KK Women's and Children's Hospital, Singapore. Prior to the IP rounds, the participants attended the training program, consisting of the introduction to a structured framework; 'one-minute preceptor teaching techniques; and IP experiential discussions. IPE ward rounds were conducted one month later in the pediatric ward, with the professions taking on the assigned roles of 'lead, presenter and scribe and member. Group interviews were conducted at midway and end of the IP activity.

**Summary of Results:** The participants agreed that the IPE program and ward rounds enhanced their collaborations in the care of the patient and their family. The format of the IPE rounds allowed all stakeholders equal opportunities to share their expertise and concerns. Positive experiences included (1) understanding of professional roles and challenges, (2) strong engagement of the IPE members in decision making, (3) formulation of patient care plans in single coordinated settings, (4) improved patient safety, and (5) team-based learning and support. The resources of the clinical rounds remained similar and the length were not significantly increased. Current challenges included (1) overcoming the strong work-place hierarchal relationships, (2) providing a secure environment for speaking up, and (3) formulating a common learning framework between the professions

**Discussion and Conclusions:** The pilot IPE training program and ward rounds were effective in enhancing professional collaborations in the care of the patient in an Asian healthcare setting. Some of the challenges will require long term planning and strategies.

**Take-home Messages:** It is feasible to conduct IPE ward rounds in an acute hospital setting.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DDo4 (735)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Accelerated Readiness of Trainees in Oncology to Clinical Practise: Combining e-learning and Facilitated Group-based Discussion Led by Peers

#### AUTHOR(S):

- **Maiken Uthøi, Department of Oncology, Aarhus University Hospital, Denmark (Presenter)**
- Nicolaj Andreassen, Department of Oncology, Aarhus University Hospital and Danish Society of Clinical Oncology, Denmark
- Nina Bjerre Andersen, Department of Oncology, Aarhus University Hospital, Denmark

#### ABSTRACT

**Background:** When treating and taking care of cancer patients, it is necessary to have both theoretical and practical basic knowledge about how to handle chemotherapy. Traditionally, the initial learning for trainees in this area has been mostly self-directed and largely dependent on direct clinical supervision from a specialist. In order to focus learning and accelerate trainee readiness to work independently clinically, a new concept for basic learning in chemotherapy was developed and explored.

**Summary of Work:** As a mandatory part of the introduction trainees conducted a 6 hours e-learning programme ('Chemo School', Metropol, University College Copenhagen) followed by a one-hour group-based discussion led by a more experienced trainee. Discussions of the most important learning objectives was guided by interactive multiple-choice questions. Interviews with 16 trainees on the outcome from the combined learning concept were performed.

**Summary of Results:** The e-learning programme was acceptable, easy to access and understand. The majority of trainees found the combined learning concept highly useful and time-effective as preparation to be able to treat patients with chemotherapy. Especially the group-based discussion with peers and a more experienced trainee was appreciated as a safe learning environment.

**Discussion and Conclusions:** Evaluation of the combined learning concept showed a positive impact on trainee self-efficacy in respect to readiness to clinical practise. However, transfer of trainees perceived learning to performance in clinical work was not investigated neither were the possible positive impact on time used by specialist to basic introduction of trainees. The use of experienced trainees as teachers may contribute to the implementation of the concept as it also supports the trainees abilities of teaching and skills related to leadership.

**Take-home Messages:** E-learning combined with group-based discussion led by experienced trainees is from a trainee perspective an effective introduction to basic concepts of chemotherapy treatment. The concept might accelerate trainee readiness to handle chemotherapy in clinical practice and may be of use internationally and in other specialities.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DD05 (797)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### How the implementation of team-based learning into introductory session regarding transition into Clinical year influences medical students' confidence in adapting to Clinical Year

#### AUTHOR(S):

- Sunee Neesanun, Department of Internal Medicine, Sawanpracharak Hospital, Thailand (Presenter)
- Thanita Uyathanarat, Department of Pediatrics, Sawanpracharak Hospital, Thailand

#### ABSTRACT

**Background:** The period from preclinical to clinical year is a major transition within medical education as students adapt to the new academic environment. Previously, introduction to clinical year sessions, a method implemented in our system to navigate students through this period, are ineffective due to the lack of student engagement. This study aims to evaluate the role of team base learning in introductory session for senior students easing them transitional to clinical year.

**Summary of Work:** The introductory session was organized for fourth-year medical students at Sawanpracharak hospital. The first part of the session announces students academic performance and introduces students to the upcoming curriculum. The second part was divided students into four discussion groups. Through team-based learning, each group discuss their concerns, expectations regarding the clinical year and their opinions on working as doctors. During the final part of the session, each group share their findings to the class. Pre- and post- session, attendees were invited to anonymously complete questionnaire concerning their adaptation, learning and development as doctors.

**Summary of Results:** 29 students participated in the program. After the session, there was a decrease in concerns regarding adaptation and staff or senior abuse; from 50%, 10.7% to 14.3% and 3.6% respectively. There was an increase in student's confidence to learn in clinic year, treat patients and work in OR and LR ward. After the discussion, students are inclined to utilize multi-approach learning and self-learning instead of relying on lectures. In addition, students put more emphasis on professional development and find the role model to develop to be a doctor. The majority of students prefer to continue team-based learning in the introduction to the clinical year in the future.

**Discussion and Conclusions:** Team base learning in introduction to clinic decreased students' concern regarding adaptation and increased their confidence in learning in clinical year. This method of learning broadens students' perspective regarding education and professional development.

**Take-home Messages:** In conclusion, the utilization of team base learning in introduction to clinic for senior student decreases students' concerns regarding adaptations and eases students to learning in the clinical year.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DDo6 (806)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### An exploratory study of an individualized coaching exercise for professional development and support of Infectious Diseases physicians

#### AUTHOR(S):

- Sharavan Sadasiv Mucheli, NHG - Tan Tock Seng Hospital, Singapore (Presenter)
- Hsu Li Yang, NHG - Tan Tock Seng Hospital, Singapore

#### ABSTRACT

**Background:** New consultant doctors face unique challenges at the workplace, especially as they transit over from being supervised to being more independent. The present study explores the conduct of an individualized coaching exercise and its outcomes in a group of infectious diseases physicians of a Singapore teaching hospital.

**Summary of Work:** In October 2018, five consultants (i.e., coachees) and a visiting senior consultant (coach) participated in a brief coaching exercise over a two-week period. The exercise consisted of an initial introductory and goal-setting session (individualized), 2 to 3 sessions with direct clinical observation and a final debriefing session. Participants views of the coaching process and their perceived outcomes were evaluated by thematic analysis of data collected through semi-structured interviews.

**Summary of Results:** All participants perceived the coaching exercise to be helpful. Coachees set goals in both academic (viz. clinical decision-making, dealing with clinical uncertainty) and non-academic domains (viz. communication skills, time management, work-life balance, emotional regulation). Being approachable, trust-worthy and non-judgemental were deemed to be essential qualities of a good coach. The coach was able to reassure and reaffirm as well as guide coachees to 'self-remediate' when necessary. Specific feedback on the conduct of the exercise (longer duration, different observation frequency, better preparation etc.) was obtained to guide future implementation.

**Discussion and Conclusions:** This pilot study suggests that individualized coaching may be a useful tool for professional development, especially in supporting new consultants. Although the short time-frame and limited sample size of this exercise was a clear limitation, the study identified some key areas of improvement to consider when designing a future coaching intervention. Participants found the coaching exercise useful in addressing challenges in both academic and non-academic domains. Whether the results have an enduring effect remains to be explored.

**Take-home Messages:** A structured and individualized coaching program may provide good support to consultants, to cope with the challenges in their job roles. This intervention needs to be context-specific and sensitive to the work culture.



## #8DD ePosters - Transitions / Interprofessional Practice

### 8DD07 (1001)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Important skills and job satisfaction during medical internship

#### AUTHOR(S):

- Sun Jung Myung, Seoul National University College of Medicine, South Korea (Presenter)
- Ju Whi Kim, Seoul National University College of Medicine, South Korea
- Sang Hui Moon, Seoul National University College of Medicine, South Korea
- Hyun Bae Yoon, Seoul National University College of Medicine, South Korea
- Jun-Bean Park, Seoul National University College of Medicine, South Korea
- Wan Beom Park, Seoul National University College of Medicine, South Korea

#### ABSTRACT

**Background:** The purpose of this study is to investigate the competencies required during internship training and to examine their job satisfaction.

**Summary of Work:** All medical interns from 2016 to 2018 participated in this study. Medical interns were asked to rank the importance of learning 10 predefined skills prior to internship and to rank the 3 most helpful in preparing for internship. In addition, we surveyed medical interns' job satisfaction using the Minnesota Satisfaction Questionnaire short form (MSQ-SF) and asked whether they had considered ending their training.

**Summary of Results:** The three skills most frequently rated as very important skills were identifying when to seek additional help and exercise, prioritizing clinical tasks and managing time efficiently and communicating with other providers around care transitions. Clinical skills training for licensing examination during 4th year was most often selected as being the most helpful course in preparing for internship. Half of the interns have ever considered ending their training and most common reason for stopping training was work-overload. Their average job satisfaction score was 57.5.

**Discussion and Conclusions:** Medical internship program should be tailored according to required competencies for primary physician and support program to increase job satisfaction should be considered.

**Take-home Messages:** Identifying when to seek additional help and exercise was found most important skills during internship. Educational program and support system for trainees job satisfaction should be provided.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DDo8 (1014)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Enhancing knowledge of nursing staff with bedside teaching and cross-team discussion in the nephrology ward

#### AUTHOR(S):

- Chia Jung Chan, Taipei Medical University Hospital, Taiwan (Presenter)
- Chiu Ping Chiung, Taipei Medical University Hospital, Taiwan
- Chih Chin Kao, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** The traditional training program for new staff members is only dominant in the nursing care of kidney disease, which lacks actual case discussion and clinical application. Thus, by utilizing bed-side teaching technique combining the cross-team discussion with the nutritionists to enhance our nursing staffs knowledge and skills.

**Summary of Work:** Nursing staff will report a case with a specific topic once a month. The discussion will first be made based on the scheduled topic, and it will be further carried on bed-side. The content of the bed-side teaching includes the pathophysiology of disease, physical examination. Participants must finish the pre/post-test and satisfaction questionnaire.

**Summary of Results:** A total of 11 bed-side teaching sessions were held, with an average of 79.9 points in the pre-test, and 99.6 points in post-test. An average improvement rate of 24.6% was noted. Average satisfaction score was 4.9 points (1-5 points).

**Discussion and Conclusions:** In our study, the average rate of the care acknowledgment after clinical bed-side teaching increased by 24.6%. Furthermore, the excellent satisfaction score was also noted with 4.9 points (1-5 points). In conclusion, this teaching method shows high satisfaction in nursing staffs during the application of their clinical knowledge in the care of patients. Through bedside teaching and cross-team case discussions, nursing staffs can improve the understanding of the patients' condition and continuously enhancing their professional knowledge and skills. Therefore, the nursing care quality could be further improved.

**Take-home Messages:** The combination program of bedside teaching and cross-team discussion could help that nursing staffs effectively enhance their clinical knowledge and skills. In the future, we could integrate more different interprofessional teaching. By expending the team, nursing staffs will exchange and learn from each other to improve their ability through inquiring professional knowledge and sharing with others.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DDog (1478)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### What does it mean to be a medical intern? A phenomenographic study

#### AUTHOR(S):

- **Matilda Liljedahl, Sahlgrenska University Hospital, Sweden (Presenter)**
- Yvonne Carlsson, Sahlgrenska Academy, Sahlgrenska University Hospital, Sweden
- Anna Nilsson, Sahlgrenska University Hospital, Sweden
- Stefan Bergman, Sahlgrenska Academy, Sweden

#### ABSTRACT

**Background:** Entering a professional career in medicine is known to be associated with a number of transitions and research has shown how this phase often is characterized with feelings of stress and being 'thrown in at the deep'. Various forms of introduction programs have therefore been established with the ambition to ease the transition from medical student to practicing doctor. Even though experiences of the medical internship have been extensively explored, less is known about how medical interns understand and conceptualize the internship.

**Summary of Work:** This study aimed to explore what it means to be a medical intern. We designed a qualitative, phenomenographic study and performed semistructured individual interviews with 12 medical interns from both regional and university hospitals in Sweden. Interviews were audiotaped, transcribed verbatim and analyzed in line with the phenomenographic approach.

**Summary of Results:** Five qualitative differing categories were found which were sorted in the following hierarchical structure. Internship as in-service training emphasized how interns viewed learning as the primary task of their work. Internship as preparation meant that the internship was seen as preceding what would come later, namely, the real work as a doctor. Internship as growing illuminated the possibility to develop as a doctor through taking responsibility for patients. Internship as quality marker emphasized how the accomplishment of the internship indicated sufficient intern competence. Finally, internship as space implied how the internship ultimately provided an appreciated space for learning.

**Discussion and Conclusions:** This study showed that there are various ways of understanding the meaning of the internship. While internship as in-service training and preparation indeed was appreciated by our participants, the role of the internship as a possibility to grow was pivotal for participants' development as doctors. This study provided novel aspects of the internship as it was also conceptualized as a quality marker and as a space for learning.

**Take-home Messages:** The role of the medical internship is not only to provide junior doctors with the sufficient preparation for future work, but is a special time where substantial learning can take place because of the space provided.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DD10 (2299)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### The role of a one week Transition Course in preparing students for Foundation Year 1: Views of medical students and Foundation doctors

#### AUTHOR(S):

- **Rebekah Judge, Imperial College London, UK (Presenter)**
- Diluxshy Elangaratnam, Imperial College London, UK
- Joanne Harris, Imperial College London, UK
- Alexander Harding, Imperial College London, UK
- Emma Hatfield, Imperial College London, UK
- Rustam Karanjia, Weston Area Health NHS Trust, UK

#### ABSTRACT

**Background:** The transition from medical student to Foundation Year 1 (FY1) is challenging. Students feel inadequately prepared for both the clinical and the non-clinical aspects of working life (such as managing finances, career planning, and dealing with legal issues), causing stress and contributing to burnout. Imperial College School of Medicine (ICSM) offers a unique one-week transition course which aims to prepare students for both the clinical and non-clinical aspects of life as a doctor.

**Summary of Work:** This qualitative study aimed to evaluate perceptions of preparedness for the non-clinical aspects of life as a junior doctor, and the value our transition course. Views of final year medical students (n=6) and ex-ICSM FY1 doctors (n=4) were compared through interviews. Thematic analysis was performed by two independent researchers.

**Summary of Results:** Themes included Perception of preparedness for FY1, Experience of FY1 and Value of the Transition Course. Although students felt equipped with adequate knowledge for FY1, they felt inadequately prepared for the step up in responsibility and coping with stress. Current NHS pressures, a litigation culture, and the Junior Doctor contract contributed significantly to concerns about the transition. These concerns were echoed by FY1 doctors who experienced difficulty with responsibility, coping with pressure, managing their finances, and legal issues. The inability to fully prepare for the transition to working life was noted, with a sense that learning by experience was inevitable. However, both students and doctors felt that the course was beneficial in preparing for the transition. Suggestions for further improvement included covering these aspects earlier in medical school, tailoring information to individual need, and providing a better insight into what to expect.

**Discussion and Conclusions:** Students feel inadequately prepared for life as a doctor. Their concerns echo the real experience of FY1 doctors, and include concerns about finances, coping with pressure, career planning and litigation.

**Take-home Messages:** Addressing non-clinical aspects of life as a doctor during transition modules is beneficial, and may help ease the transition from student to doctor.

## #8DD ePosters - Transitions / Interprofessional Practice

### 8DD11 (2460)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Investigate the Undergraduate Medical Students' Perceptions of Early Clinical Exposure Environment in Hospital Settings

#### AUTHOR(S):

- Cut Rizka Rahmi, Taipei Medical University, Taiwan (Presenter)
- Kung Pei Tang, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** Studies indicate that early clinical exposure (ECE) act as a bridge between preclinical disciplines and clinical disciplines. Early clinical exposure is supposed to mitigate transition problem and encountering them early contact with real patients and the problem in the clinical learning environment. Therefore, assessment and feedback on their clinical learning environment are very important in the students learning process. We investigated how the early clinical exposure environment was perceived by undergraduate medical students of Syiah Kuala University, Indonesia.

**Summary of Work:** Using the 50 items Indonesian version of The Dundee Ready Education Environment Measure (DREEM)-5 point Likert scale that has been validated and proven to be reliable with a Cronbach alpha of 0.94. DREEM used to gather third and fourth-year medical students' perceptions of early clinical exposure environment they had rotated through in the main teaching hospital. Data were collected and analyzed to identify the scores of DREEM and its five subscales (the perception of learning, the perception of teachers, academic self-perception, the perception of atmosphere, and social self-perception).

**Summary of Results:** 201 participants (female 80.6%) returned a completed DREEM. The overall score of DREEM was 138.34/200 (SD 16.64). There was a significant difference in the perception of learning between years of study and the perception of teachers between gender (p-value was 0.000 and 0.009). Regarding the mean scores, the students' social self-perceptions had the lowest score (3.12), while the academic self-perceptions had a higher score (3.26).

**Discussion and Conclusions:** The early clinical exposure environment was leaning towards as more positive than negative although improvements in a certain area such as social life must be taken into consideration. The trend to decreased scores in senior students for subscale students perception of learning still needs more attention. This will enable to foster recommended approaches learning that encourages the medical faculty to create a conducive learning environment for the student.

**Take-home Messages:** Early clinical exposure consumes extra efforts in the implementation. DREEM appears to be the valid tool for short term evaluation and monitoring the environment within it.



## #8DD ePosters - Transitions / Interprofessional Practice

8DD12 (2529)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer B, Level 2

### Postgraduate Education Fellows: Bridging the gap between trainees and trainers

#### AUTHOR(S):

- Luciana Sowole, West Middlesex University Hospital, Chelsea and Westminster NHS Foundation Trust, UK (Presenter)
- Emily Savage, West Middlesex University Hospital, Chelsea and Westminster NHS Foundation Trust, UK
- Shreena Shah, West Middlesex University Hospital, Chelsea and Westminster NHS Foundation Trust, UK
- Christina Cotzias, West Middlesex University Hospital, Chelsea and Westminster NHS Foundation Trust, UK

#### ABSTRACT

**Background:** The roles and responsibilities of Post Graduate Education Fellows (PGEdF) are multi-faceted. Annually in the UK the General Medical Council (GMC) asks all trainees to complete a National Training Survey (NTS). In preparation, the PGEdFs conduct a local internal survey prior to the NTS to focus on and enhance trainee's local education and training. The experience of devising and responding to these surveys in a climate of trainee 'survey fatigue' is described.

**Summary of Work:** The survey was specifically devised to focus on key areas of trainee experience -work load, patient safety, training, supportive environment and overall experience. The electronic 22 question condensed version of the NTS was sent to all local trainees for completion from December 2018 and ran for a 6 week period.

**Summary of Results:** 60 trainees responded. 12/60 (20%) reported experiencing undermining behaviour and 20/60 (33%) reported patient safety concerns. As with the annual GMC NTS, these identified reports triggered immediate investigation and action. The PGEdFs set up focus groups for trainees in specialties implicated. Structured anonymised feedback with recommendations for improvement by affected trainees was shared with departmental consultants with the support of the Director of Medical Education (DME). Actions for positive change were implemented in response.

**Discussion and Conclusions:** A focused pre- GMC survey created by PGEdFs highlighted trainee concerns. These were then dealt with sensitively, anonymously and proactively. By having PGEdFs lead the subsequent trainee forums, a flat hierarchy for open discussion was created, providing trainees a 'safe space' and the option to remain anonymous (if they chose). The non-consultant grade of the position is a significant benefit of the role, as we are able to facilitate peer to peer non-judgemental feedback, escalate concerns and ensure improvement ideas were heard in real-time. This highlights that a key role of PGEdFs can be to act as an effective interface between trainees and trainers to optimise learning and change opportunities.

**Take-home Messages:** PGEdFs can play a central role in bridging the gap between trainees and trainers, ensuring issues with training are identified and resolved. Proactive peer to peer engagement empowers trainees to lead change.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EE01 (65)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Advanced physical examination training course improves medical students' confidence in physical examination

#### AUTHOR(S):

- Fen-Yu Tseng, National Taiwan University Hospital, Taiwan (Presenter)
- Yu-Ting Chang, National Taiwan University Hospital, Taiwan
- Chong-Jen Yu, National Taiwan University Hospital, Taiwan
- Shan-Chwen Chang, National Taiwan University Hospital, Taiwan

#### ABSTRACT

**Background:** Physical examination (PE) is a basic diagnostic tool in clinical settings. It is important to enhance medical students' skills and confidence in PE.

**Summary of Work:** Our medical students begin learning PE in the fourth medical year (M4). They undergo hands-on clinical training in the fifth medical year (M5). To improve the teaching of PE, we implemented an advanced PE training course (APETC) for M5 students. In APETC, PE skills for chest (CH), cardiovascular system (CV), and abdomen (GI) domains were demonstrated by senior specialists. Under tutors' supervision, students performed PE on selected patients with positive signs. To evaluate the effect of this training course, we designed a checklist to evaluate students' confidence level in PE before and after APETC. Average confidence scores of PE in CH, CV, and GI domains among different years and genders were compared using ANOVA tests.

**Summary of Results:** M5 students' confidence in PE for individual items on the CH, CV, and GI checklists increased significantly after the APETC, in both 2014 and 2015 (all  $p < 0.0001$ ). The average post-course confidence scores of all items in CH, CV, and GI domains increased significantly over average pre-course confidence scores. The average post-course confidence score in PE was higher in the year 2015 than that in the year 2014. Male students tended to have higher confidence scores in PE than female students.

**Discussion and Conclusions:** APETC enhanced medical students' confidence in PE. Female students seem to have lower confidence in PE than male students.

**Take-home Messages:** Continuous improvement is important in teaching PE. Long-term effects of the APETC on improving medical students' skills and confidence of performing PE and the real impacts of gender on PE learning outcomes remain to be investigated.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EE02 (262)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Effectiveness of an evidence-based practice educational intervention with school nurses

#### AUTHOR(S):

- Pei-Lin Hsieh, Chang Gung University of Science and Technology, Taiwan (Presenter)
- Sue-Hsien Chen, Chang Gung Memorial Foundation Administration, Taiwan

#### ABSTRACT

**Background:** Evidence-based practice (EBP) in healthcare has focused mainly on the hospital setting. However, there is little research on the adoption and implementation of EBP among school nurses in Taiwan, many of whom have limited experience using and lack the necessary skills to confidently implement EBP.

**Summary of Work:** This study aimed to develop an evidence-based school nursing course with a Web-based blended format in which approximately 9 hours of the class were conducted online, 10 hours were conducted using a traditional in-class and face-to-face format, and outreach support was provided for 3 months. The support involved email, online interaction, and telephone contact. Knowledge, attitudes, and skills were assessed using a questionnaire administered at baseline, post-training program, and 3-month follow-up, and the program's effectiveness was analyzed using a repeated-measures ANOVA.

**Summary of Results:** Convenience sampling was used to recruit 345 primary school nurses in New Taipei City (38%) and Tao-Yuan City (62%). The participants' age ranged from 34 to 62 years, with a mean age of 40.75 years, and the mean length of time employed as a school nurse was 8.4 years; the majority had a bachelor's degree (73.3%), with 41.3% coming from medium-sized schools. The results revealed significant gains in knowledge at the post-training program stage ( $p \geq .001$ ), which was maintained at follow-up. Although there was no statistically significant difference between pre-test and post-test attitudes, the scores at follow-up were significantly higher than at post-test ( $p \geq .001$ ). The improvement in skills between post-test and follow-up was small and non-significant.

**Discussion and Conclusions:** A blended learning approach and outreach support led to a marked improvement in evidence-based practice knowledge and attitudes, but only minor changes in skills. Therefore, health educators should focus on skill development and help school nurses establish new routines around EBP.

**Take-home Messages:** A series of EBP training courses should be developed continually and coherently. The study findings can be used as a basis to develop a comprehensive strategy for building EBP competencies through proper training for school nurses.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EE03 (298)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### The Situational Judgement Test - Can it really be taught? A near-peer teaching programme to help improve preparation for the SJT

#### AUTHOR(S):

- Bryony Peiris, Royal Berkshire Hospital, UK (Presenter)
- Tahira Mohamed, Addenbrookes Hospital, UK

#### ABSTRACT

**Background:** In 2013, the Foundation Programme (UKFPO) introduced the Situational Judgement Test (SJT), an exam for employment that tests the attributes needed to work as a doctor. The UKFPO states that students do not need coaching or to revise for the exam. However, final year medical students have been shown to feel unprepared for this exam and unsure how to revise.

**Summary of Work:** The aim of this study was to deliver a structured teaching program to final year medical students on the SJT, to assess if students felt more prepared for the exam and to evaluate the efficacy of teaching given by foundation year one doctors.

**Summary of Results:** A teaching programme was designed, developed and delivered by two recent medical graduates for final year medical students. This consisted of an introductory lecture and a series of workshops based on each of the SJT Target Attribute Domains. The course was open to students from all UK medical schools. Students were asked to complete a feedback form at the beginning and end of the introductory lecture and then at the end of the workshops.

**Discussion and Conclusions:** One-hundred and fifty-three questionnaires were analysed. Feedback was very positive with 99.3% of students stating that they found attending a workshop useful and the majority of students saying the course was well organised (94.2%), they felt more prepared for the exam (86.3%), and felt they knew better how to approach answering questions (88.9%).

**Take-home Messages:** Despite the UKFPO's recommendations, our results have shown that students have found this course useful in preparing for the exam, in particular to be taught by near-peers who have recently sat the exam themselves. Due to a lack of formal preparation materials being available to students, we hope this course can become an annual event as was expressed in feedback.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EEo4 (392)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Educating and Empowering Ethiopian Medical Trainees on Quality Improvement and Patient Safety within the field of Infectious Diseases

#### AUTHOR(S):

- William Stokes, University of Calgary, Canada (Presenter)
- Candace Rypien, University of Calgary, Canada
- Bayan Missaghi, University of Calgary, Canada
- Aynishet Adane, University of Gondar, Ethiopia
- Dylan Pillai, University of Calgary, Canada
- Bonnie Meatherall, University of Calgary, Canada

#### ABSTRACT

**Background:** The University of Calgary and the University of Gondar Collaborative Short Course in Clinical Infectious Diseases is a four-day intensive training course that focuses on infectious diseases and patient safety and quality improvement (PSQI). It is taught at the University of Gondar in Gondar, Ethiopia and is geared towards medical trainees associated with the university. Our aim was to qualitatively and quantitatively determine how successful the course was among the participants.

**Summary of Work:** The clinical topics for the course were chosen based on a needs assessment by collaborators at the University of Gondar Internal Medicine Department. They included didactic lectures, clinical cases, microbiology lab work, and small group PSQI projects. Pre and post-course tests, individual interviews, focus groups, and feedback surveys were used to assess the needs of the course participants as well as the effectiveness of the course instruction.

**Summary of Results:** 18 trainees attended the course. 17 completed both the pre and post-tests; 5 interns, 7 general practitioners, and 5 internal medicine residents. Average pre-test and post-test scores were 47% and 73%, respectively, corresponding to a 26% difference ( $p < 0.001$ ) which did not differ significantly between the trainees' education level. Participants median rating for all lectures was 'excellent' except for two. Based on interviews and focus groups, the most enjoyable course topics were the PSQI small group projects and the lectures that were case based.

**Discussion and Conclusions:** With WHO's recommendations for implementing patient safety in medical school curriculums worldwide, our course excels at expanding this patient safety curriculum to developing trainee-led PSQI projects, with an emphasis on infectious diseases.

**Take-home Messages:** The University of Calgary and the University of Gondar Collaborative Short Course in Clinical Infectious Diseases at Gondar, Ethiopia is a well-designed, interactive, and informative teaching course that enhances trainees' knowledge on tropical diseases and empowers them to consider incorporating PSQI measures into their local workplace. Further work is ongoing to strengthen the relationship between this medical partnership, such as by supporting longitudinal, trainee-led PSQI initiatives with the University of Gondar Department of Medicine.



## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

8EE05 (472)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Effectiveness of integrating EBM into PBL sessions in Pharmacist PGY Training Program

#### AUTHOR(S):

- Hui Chen Su, Chi Mei Medical Center, Taiwan (Presenter)
- Mei Chuan Lee, Chi Mei Medical Center, Department of Pharmacy, Taiwan
- Yi Ming Hua, Chi Mei Medical Center, Department of Pharmacy, Taiwan
- Ying Ling Liu, Chi Mei Medical Center, Department of Pharmacy, Taiwan
- Hsing Chun Hsieh, Chi Mei Medical Center, Department of Pharmacy, Taiwan
- Yu Fen Huang, Chi Mei Medical Center, Department of Pharmacy, Taiwan

#### ABSTRACT

**Background:** PBL is during the teaching process, with practical issues as the core, encouraging student discussion to develop active learning, critical thinking and problem solving skills. EBM is a systematic approach that integrates individual clinical knowledge and best evidence for clinical care decisions. Both EBM and PBL focus on the resolution of patient's clinical problems. This is the study through real or virtual clinical cases combined PBL and EBM to evaluate the effectiveness in Pharmacist under the Post Graduate Year training Program.

**Summary of Work:** A total of 25 pharmacists entered this study. We design the basic lessons for EBM, including PICO, search, and critical appraisal. Using the PBL lesson, Lung Cancer Drug Therapy, that design allows students to use the EBM skill to find the best evidence and provide the suggestions to patients. This study use Fresno Test to analyze the differences after this training program.

**Summary of Results:** Fresno Test is a standardized, objective tool for measuring the ability of Evidence-Based Medicine. It also evaluates knowledge and skills and has a good reliability and validity. There are 12 questions in the Fresno Test, with a total score of 216. This study excludes the diagnostic type appraisal, so the total score is modify to 156. 25 pharmacists. There was a significant difference after the integrating PBL and EBM training program. The pre-test score was  $93.43 \pm 24.32$ , and post-test was  $129.71 \pm 22.34$  ( $p < 0.0001$ ).

**Discussion and Conclusions:** EBM is a core skills in clinical medical members. Through integrating EBM into PBL sessions, that use virtual cases, guide students practice and provide an appropriate clinical suggestions. This is a successful learning module and worth to promote.

**Take-home Messages:** Through the simulated case, provide students practice opportunity. Let the knowledge complete in three stages: know, get, and do.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EEo6 (1227)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Educational Programs and their Influence on Pharmacist Satisfaction and the Quality of Pharmaceutical Services: Serial Analysis in a University Hospital

#### AUTHOR(S):

- Er-Ying Wang, Taipei Medical University Hospital, Taiwan (Presenter)
- Han-Yin Lo, Taipei Medical University Hospital, Taiwan
- Bi-Li Chen, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** It appears that the current clinical internship for pharmacists is insufficient in preparing graduates for performing in-depth assessments or making recommendation for physicians. In this paper, we outline an interactive educational program aimed at enhancing the professionalism of pharmacists.

**Summary of Work:** A total 24 individuals were enrolled in the program which ran from Dec. 2017 to May 2018. They were distributed in terms of work experience as follows: < 2 yrs (33.3%), 2-4 yrs (20.8%) and > 4 yrs (45.8%). The program included weekly classes on topic-driven journal reading in conjunction with a case-based discussion. Questionnaires administered before and at the end of the program were used to evaluate the participants' level of professional knowledge, problem-shooting skills, and issues pertaining to professionalisms. Pharmaceutical outcomes were evaluated before and during the program as well as 6 months after completion by tabulating the number of prescriptions recommended (RN), pharmacist suggestion rate (PSR), the RN out of total prescriptions and physicians concur rate (PC). Results were calculated using a two-sided Students' t-tests, and a computed p value < 0.05 was considered significant.

**Summary of Results:** We observed gradual improvements in outcomes in average RN (228.8, 310.7, and 335.2). The PC increased from an initial value of 91.6% to 95.1% and 94.9%. We observed a significant increase in PSR over time from initial 1.1% to 1.4%, and 1.6%, ( $p = 0.015$  and  $0.004$ , respectively). Participants with less experience ( $\leq 4$  yrs) reported a high degree of satisfaction (77.3% to 85.4%,  $p = 0.005$ ), particularly in problem-shooting skills ( $p < 0.01$ ).

**Discussion and Conclusions:** The program was shown to enhance professionalism and pharmaceutical outcomes even after the program ended. Clinician participation is crucial to the success of such programs. Barriers for sustainable programs include a lack of teaching staff, low physician attendance, and a lack of institutional support.

**Take-home Messages:** On-job training programs can better improve physicians' prescriptions.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EEo7 (1354)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Formal Procedural Skills Training for Internal Medicine Junior Doctors with Task Trainers - A Singapore Experience

#### AUTHOR(S):

- Lee Deanna, Sengkang General Hospital, Singapore (Presenter)
- Dong ChaoYan, Sengkang General Hospital, Singapore
- Chua Melvin, Sengkang General Hospital, Singapore
- Aw Derrick, Sengkang General Hospital, Singapore

#### ABSTRACT

**Background:** Singapore Board of Internal Medicine requires doctor's actual demonstration of competence and safe performance of a set of specific procedures through direct observation before formal credentialing and certification process. Formal accreditation is crucial to provide a safe practicing environment on top of building upon procedural knowledge, hands-on skills, confidence in practice for doctors before attempting procedures on real-life patients. Present data show that trainee doctors who lack procedural experience significantly cause complications like increased length of stay and procedural complications.

**Summary of Work:** From May 2018 till Jan 2019, a total of 120 Junior doctors rotating through Sengkang General Hospital Internal Medicine posting underwent formal procedural skills training certification course. They were given pre-reading materials and assessment of knowledge and confidence prior to hands-on demonstration and supervised practice using the task trainers. They were then assessed on their performance post course using the check-list and again their confidence in procedural performance. They were then be deemed competent to perform these procedures (central venous catheter, lumbar puncture, abdominal paracentesis, joint aspiration, thoracocentesis, and chest tube) under direct supervision on real patients. Then, they were required to log in their procedures performed as part of formal credentialing process to progress to perform such procedures without direct supervision. Six months later, a follow-up assessment and confidence interval was also done to measure the effectiveness of this course along with procedural complication.

**Summary of Results:** 80% of the junior doctors felt that their confidence improved significantly after the procedure course and six months later ( $P < 0.05$ ). Their knowledge improved by 75.5% post-course ( $P < 0.05$ ), but dropped to 65.5% six months later. Their skills improved by 65.9% post course and 69% six months later with the practice on real life patient.

**Discussion and Conclusions:** The preliminary results show positive overall impact of this course. For the follow-up studies, we would measure changes in practice and patient care quality.

**Take-home Messages:** Formal procedural skills training for junior doctors using task trainers improved their confidence, knowledge and skills in internal medicine bedside procedures.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EEo8 (1548)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### From experience to action! A new Strategy for breastfeeding education

#### AUTHOR(S):

- Su-Chiu Wang, Taichung Veterans General Hospital, ROC (Presenter)
- Yu-Yan Liu, Taichung Veterans General Hospital, ROC

#### ABSTRACT

**Background:** Promoting breastfeeding is very important for infant and women health. During the early postpartum period, the mother faced physiological discomfort such as wound pain and fatigue, so they delayed breastfeeding and rooming-in. Clinically, new nurses are often troubled by the inability to provide assistance. We used a breastfeed Experience camp for new nurses to improve their confidence index.

**Summary of Work:** Breastfeed Experience camp is designed from three parts: cognitive, Affective and skill. It used kahoot to concept clarification and tried role-play and zuvio system to improve consultation. We used a warm bag for staffs to feel the pain of the perineum and used sandbags to feel the pressure of caesarean section wound. Then we try role play and help normal delivery and caesarean section women about how to breastfeed their baby. After experience camp, we used clinical reasoning teaching for to help new mom breastfeed her newborn. We collected and analyzed the data from the confidence index and teaching target achievement.

**Summary of Results:** Total 23 new staffs joined the experience camp. After the experience camp, the confidence index increased by 1.23 points. From the three teaching target of effectiveness, after the experience camp shows Significant.

**Discussion and Conclusions:** Health care staff education is the important factors that may help moms breastfeed longer. Experiential Learning for breastfeeding is funny and effective than traditional classroom lecturing. After experience camp, our new staffs know how the mother's feeling and to help them comfortable. We are developing a system of breastfeeding situation for training staffs to support breastfeed.

**Take-home Messages:** we should learn more Strategy for breastfeeding education.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EE09 (1726)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Are 3rd Year Medical Students more likely to attend Medical Bedside Teaching or Case Based Tutorials? A study from a University of Liverpool teaching hospital

#### AUTHOR(S):

- Gershan Davis, University of Central Lancashire, UK (Presenter)
- Ekaterini Efstathiou, University of Liverpool, UK
- Julie-Anne Regan, University of Liverpool, UK

#### ABSTRACT

**Background:** Student attendance is felt to be linked to academic achievement and in our hospital there has been concern regarding medical student absenteeism at both bedside teaching (BT) and case based learning (CBL). We therefore investigated the reasons for attendance and nonattendance at BT and CBL amongst 3rd year medical students doing a clinical placement in Medicine at a University of Liverpool teaching hospital.

**Summary of Work:** Semi structured Interviews were carried out amongst 5 students of the previous year to aid the development of an anonymous questionnaire survey with accompanying free text. The final questionnaire was designed from a literature review and inclusion of local factors obtained from the thematic analysis of the interviews. 36 students in the then current year 3 were invited to participate.

**Summary of Results:** There was a 47 % overall response rate and 76% of students felt that attendance at BT was essential to becoming a good doctor whilst 63% felt that attendance at CBL was essential to becoming a good doctor. Reasons for attendance at bedside teaching were essential to becoming a good doctor (76%), enjoyment of attending (71%) and extrinsic motivation (important to maintain high level of achievement (71%), able to improve my knowledge (76%), helps understanding (71%). Commonest reasons for attendance at CBL were related to the students' feelings regarding the course characteristics such as Consultant delivered (81%), instructive (81%) and ability to ask questions and help understanding (81%).

**Discussion and Conclusions:** Despite the perceived value of BT, students are less likely to attend compared to CBL. They attend based on intrinsic motivational factors compared to CBL which they attend based on external motivation and the perceived educational value. They were disappointed by the content and teaching in BT and therefore less likely to attend compared to CBL.

**Take-home Messages:** Bedside Teaching needs to be addressed in the current UK health care setting so as to improve attendance and benefit medical student learning.



## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

**8EE10** (2202)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Case Based Learning versus conventional lecture in Clinical Pharmacology education and its relation to learning styles

#### AUTHOR(S):

- **Fatih Ozdener**, Department of Pharmacology, Bahcesehir University School of Medicine, Turkey (Presenter)
- **Abdullah Canberk Ozbaykuş**, Bahcesehir University School of Medicine, Turkey
- **Melike Yavuz**, Department of Public Health, Bahcesehir University School of Medicine, Turkey
- **Demet Koc**, Department of Medical Education, Bahcesehir University School of Medicine, Turkey

#### ABSTRACT

**Background:** Case based learning (CBL) has been proven to stimulate analytical and diagnostic thinking skills and has been utilized as an effective method of education in medical curriculums. Pharmacology is a discipline that bridges basic and clinical sciences and deals with clinical cases and their treatments and hence is a quite suitable subject for CBL. Despite that potential, CBL has been under-utilized in Pharmacology teaching in medical curriculums. This study was conducted to pilot CBL as a method of teaching Clinical Pharmacology to medical students at Bahcesehir University School of Medicine in Turkey and to find out whether it is more suitable for a particular learning style

**Summary of Work:** CBL sessions were given as part of the 3rd year clinical pharmacology curriculum and sessions were facilitated by a Pharmacology professor. Sixty seven students participated in the study after giving informed consent. Participants were given a questionnaire of 15 questions to rate the CBL sessions and compare them to conventional lecture format. Subsequently, a validated questionnaire (VARK) was applied to students to determine their learning styles. The results of CBL session questionnaire was compared to learning style questionnaire to detect possible associations between the learning style and the opinions by a particular student.

**Summary of Results:** In a Likert scale of five points, frequency distribution has shown that the vast majority of the responses were positive between agree and strongly agree points for positive opinions on CBL. The students strongly agreed that this teaching method stimulated critical thinking, helped familiarize with clinical cases and that it could be utilized by other disciplines as well. Furthermore, there were no differences between responses by students with multimodal versus dominant uni-modal learning styles showing that all learner types equally benefited from the CBL sessions.

**Discussion and Conclusions:** Our study has shown that CBL in Clinical Pharmacology is highly regarded and positively taken up by medical students that had already acquired prior basic knowledge. Beneficial effects of CBL is not confined to a particular learning style and therefore is applicable to all students.

**Take-home Messages:** CBL is an effective alternative method for Clinical Pharmacology education regardless of learning styles.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

**8EE11** (2868)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### A test-driven learning in acute cardiac care conference effectively improves electrocardiogram (ECG) reading skills of medical students and residents

#### AUTHOR(S):

- Chungyu Lin, Department of Internal Medicine, National Taiwan University College of Medicine, Taipei, Taiwan (Presenter)
- Ming-Shiang Wu, Department of Internal Medicine, National Taiwan University College of Medicine, Taipei, Taiwan
- Po-Yuan Chang, Department of Internal Medicine, National Taiwan University College of Medicine, Taipei, Taiwan

#### ABSTRACT

**Background:** Although the training course of electrocardiogram (ECG) interpretation was started early in medical school, the accuracy in interpretation of 12-lead ECG under emergent conditions has remained a challenge for junior doctors (students and residents). Timely and correct ECG diagnosis is the most important factor determining clinical outcome in patients with acute myocardial infarction. To improve junior doctors' ability in critical ECG readings, we have initiated a weekly cardiac care conference focused on ECG teaching since 2012 using a test-driven strategy.

**Summary of Work:** Junior doctors who rotated to cardiology department were required to attend the 1-hour acute cardiac care conference every week. In the beginning of the conference, they were given a questionnaire about their ECG training background along with a pre-test sheet of 3-5 ECGs obtained from critical patients. After 30 minutes, a post-test sheet containing another 3-5 ECGs was given. The correctness of these tests, the junior doctors' confidence in ECG reading and their feedback were evaluated by certified cardiologists.

**Summary of Results:** The junior doctors were divided into two groups according to whether they ever attended this conference before. Based on their answers in the questionnaire, Group 1 had attended the conference at least once while Group 2 had not. Compilation analysis showed that in the pre-test, Group 1 clearly demonstrated a higher percentage of correctness of ECG test questions than Group 2. In the post-test, there was no difference. Both Groups revealed a better rate of ECG correctness in the post-test compared to the pre-test. In addition, the confidence in reading difficult ECGs also improved after attending this conference for both groups.

**Discussion and Conclusions:** A test-driven learning strategy in a critical care conference not only increased young learners' participation but also improved their confidence in the management of acute cardiac patients. This strategy also improved the reading skills of difficult and complex ECGs with a short learning curve.

**Take-home Messages:** Improving ECG reading skills is a prerequisite for junior doctors to work confidently in the critical care units. A test-driven learning strategy in acute cardiac care conference improves young learners' participation, their ECG reading skills, and the confidence in the management of acute cardiac patients.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EE12 (3085)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### How to gain Radiology Knowledge? Comparison between the group lecture and integration learning of 4th year medical students in Lampang Hospital MEC

#### AUTHOR(S):

- Sarawadee Chatchavan, Lampang Hospital Medical Education Center, Thailand (Presenter)
- Jaruporn Ruanrung, Lampang Hospital MEC, Thailand

#### ABSTRACT

**Background:** Medical students need to acquire basic skills in image interpretation, anatomical knowledge, clinical of patient and background of underlying disease for interpretation X-ray images. There is difference of diagnostic Radiology curriculum for medical students in each Medical school. Some MEC have integration extending across the four-year curriculum. Some of MEC as well as in Lampang MEC of Thailand has a 4-weeks separate radiology course for fourth year medical student curriculum. Groups of medical student passing major wards have ward round teaching and evaluated by integration learning. The study who never pass teaching from major wards round were teach by group lecture before examination.

**Summary of Work:** To determine the differences of knowledge assessment in imaging interpretation of 4th year medical student in Lampang MEC between the group that having group lecture learning and integration learning.

**Summary of Results:** A retrospective study based on the records of the radiology assessment scoring system of fourth year medical student of Lampang MEC enrolled in 2014 to 2018 was used. Comparison of radiological knowledge after completed lecture blog or integration learning blog, between 4 groups of students in last five years since 2014-2018. The group divided to 1) and 2) nothing to ward round or passed outpatient department 6 months, group lecture. 3) and 4) passed inpatient department 6 months or verall rotations and the last rotation is radiology, integration learning. - Pre-test and post-test for evaluated basic radiology knowledge. - The 4 type of questionnaire was blinded and randomised, given from Radiology Department, Faculty of Medicine of CMU, Thailand. - Knowledge was gain and difference of diagnostic radiology knowledge before and after group lecture (about 5.8 to 14.6 score, p-value < 0.01) There was assessment of radiology knowledge between the groups that having group lecture learning(group 1-2) (mean =14.87 and S.D.= 3.5 ) and integration learning (groups 3-4) (mean =9.75 and S.D. 5.3), (p-value < 0.01).

**Discussion and Conclusions:** The group lecture still advantage to developing radiology knowledge more than integration learning. The more to known basic science from lecture learning, the more student gain knowledge.

**Take-home Messages:** The group lecture was hit to the point to learning of radiology more than integration learning.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EE13 (3274)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### Flipped classroom Versus Classic Lectures in Medical Education: What do Moroccan Students Prefer?

#### AUTHOR(S):

- Ghita Hjej, Université Mohamed Premier, Morocco (Presenter)
- Naima Abda, Laboratory of Epidemiology, Clinical Research and Public Health. Université Mohammed Premier, Morocco
- Maryam Fourtassi, Université Mohammed Premier, Morocco

#### ABSTRACT

**Background:** Lectures are still very widespread, and known as the main teaching method in Moroccan Universities, including Medical Schools. However, they are widely criticized for their passive methods not allowing the student to be an actor in the learning process. The present study aimed to assess the introduction of a more active teaching method combining e-learning and flipped classroom in a course thought to undergraduate medical students, at the Faculty of Medicine of Oujda.

**Summary of Work:** 223 second-year medical students participated in the study. The teaching of the module Physiology of the Nervous System was performed according to the classic lecturing method for its first half and using the flipped classroom concept for the second half. In this latter, students were provided educational videos as a course material to study off-class. The comparison of the two teaching methods was based on 3 criteria of judgment; 1-the overall satisfaction of the students, 2-the number of questions asked by the students during each of the two halves of the course, and 3-students' grades in the final assessment of the course.

**Summary of Results:** The main results revealed a superiority of the flipped classroom method compared to the lecturing one within the 3 criteria of judgment. 56% of the participating students stated a preference for the flipped classroom, compared to 44% who preferred the lectures. Students asked 4 times more questions during the flipped sessions (102 questions) compared to the lecture sessions (24 questions). And the error rate during the final assessment was slightly higher in questions related to the classical part (37.1%) than the flipped part (37.6%).

**Discussion and Conclusions:** Flipped classroom seems to be a good method for medical education because it allows students to be actors of their own learning and to take more advantage of their teacher's time and knowledge through answering their questions. Furthermore it can make use of more attractive and widespread technological tools this new generation of students are fond of.

**Take-home Messages:** Flipped classroom combined to E-learning tools can be implemented in medical studies in Morocco, as they engage students more actively in their learning.

## #8EE ePosters - Teaching - Design, Delivery, Evaluation 1

### 8EE14 (172)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Foyer C, Level 2

### The Perspectives of Evidence-Based Health Care Teaching on Undergraduate Medical Education in Taiwan

#### AUTHOR(S):

- Yu-Fang Huang, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan (Presenter)
- Jing-Jane Tsai, Institute of Education, College of Social Sciences, National Cheng Kung University, Taiwan
- Ting-Yu Yang, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan
- Yi-Ching Yang, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan
- Chih-Wei Chang, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan
- Pei-Ying Wu, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan

#### ABSTRACT

**Background:** Medical education in Taiwan has undergone dramatic changes over the past two decades. The goal of producing graduates who are scholar-scientists focuses on developing the abilities to apply the scientific method and recognized approaches to medical research; critically appraising relevant medical or scientific studies; applying findings from literature; and understanding the ethical and governance issues. This study aims to investigate evidence-based medicine teaching for developing future evidence-based health care (EBHC) curricula.

**Summary of Work:** We conducted a validated mail survey to investigate the EBHC curricula and present practices of 13 medical schools and 68 teaching hospitals/medical centers across Taiwan in 2012. Moreover, teachers' cognitions, attitudes, and teaching experiences regarding EBHC education for undergraduate medical students were studied.

**Summary of Results:** The response rate was 51.6%; 231 respondents (94.7%) provided information about their cognition, attitude, and satisfaction regarding EBHC teaching; EBHC education was conducted by 81.3% of medical schools for undergraduate year (UGY) 1-5 students and 86.2% of teaching hospitals for UGY 6-7 students. We demonstrated the most common teaching formats, assessments, and challenges in EBHC education between early and advanced undergraduate stages. Significantly fewer teachers in hospitals compared to those in medical schools were satisfied with EBHC teaching and agreed with the necessity of EBHC. However, approximately 50% of the surveyed institutes did not have assessment tools for EBHC learning. The Berlin Questionnaire and Fresno test were the most common tools applied to evaluate students' epidemiological skills and competence in evidence-based practice (EBP), respectively.

**Discussion and Conclusions:** Future assessment tools should be developed with the assistance of the Classification Rubric for EBP Assessment Tools in Education framework to measure the effects of EBHC education. The incorporation of standardized EBHC assessment into OSCE may place on the importance of EBHC education in medical school curriculum.

**Take-home Messages:** - Modern medical education emphasizes learning outcomes consistent with students' competence to apply their knowledge and skills in evidence-based health care. - The elucidated 5-steps of evidence-based practice has been promoted broadly in undergraduate years with a lack of standardized assessment tools. - The implementation of EBHC education might be achieved by developing standardized measurements and by incorporating the assessment tools into national clinical examination.



## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FF01 (461)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Cross-cultural adaptation of the Four Habits Coding Scheme (4HCS) for teaching and assessing patient-centered communication skills in Brazil

#### AUTHOR(S):

- Helena Paro, Federal University of Uberlandia, Brazil (Presenter)
- Renata Catani, Federal University of Uberlandia, Brazil
- Emiliana Valadares, Federal University of Uberlandia, Brazil
- Renata Giaxa, Federal University of Uberlandia, Brazil

#### ABSTRACT

**Background:** Brazilian educational guidelines reinforce patient-centered care (PCC) communication skills (CS) as an important competence for medical students. The Four Habits Coding Scheme (4HCS) is an instrument used for teaching and assessing clinicians' communication skills in a person-centered care approach. We aimed to translate and culturally adapt the 4HCS into Brazilian Portuguese.

**Summary of Work:** The translation process was accomplished in seven stages: initial translation, reconciliation, back translation, review by the author, independent review, consensus version through Delphi technique, review by a language coordinator, and pre-test. During pre-test, three independent observers assessed four medical consultations performed by medical students and residents that had been recorded in a real health care scenario.

**Summary of Results:** Reviewers had difficulty in reaching consensus on expressions referring to understanding the whole person, such as 'Engage in small talk', 'Expansion of concerns', 'Elicit full agenda', 'Use patient's frame of reference', and 'Explore plan acceptability'. They also had difficulty in reaching consensus on the translation of the word 'clinician', which was first translated as 'physician'.

**Discussion and Conclusions:** The translation of the word 'clinician' was the most typical example of the difficulty in incorporating PCC principles into Brazilian medical practice. Even provided with the definition of 'clinician', both physicians and translators could not come to terms with it appropriately. Most likely, the historically dominant physician behavior and the idea that the physician is the one responsible for establishing communication in the physician-patient relationship may have influenced this result. The use of rigorous translation and adaptation techniques with the participation of a panel of qualified experts and language coordinators has resulted in a culturally, conceptually, semantically and operationally sound instrument. It may represent an important advance for strengthening the person-centered care model in Brazil.

**Take-home Messages:** The use of the 4HCS in Brazil for teaching and assessing communications skills may represent an important advance for strengthening the person-centered care model in our country.

## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FF02 (476)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### A revolution in Medical English teaching in a non-native English speaking country

#### AUTHOR(S):

- Sarinya Thangsittichok, Phichit Hospital, Naresuan University, Thailand (Presenter)

#### ABSTRACT

**Background:** It is undeniable that English is a global language and apparently becomes a lingua franca in medicine. English for Medical Profession is a mandatory subject for 5th year medical students in Phichit hospital. Native English speaking patients can offer English teaching based on their authentic clinical experience. Therefore the patient educator approach has been initiated and evaluated.

**Summary of Work:** A change in medical English teaching method was done by inviting the native English speaking patient with chronic conditions as one of the instructors. The traditional practice which had been conducted yearly since 2012 by a native English teacher and a Thai clinician though the activities of role playing, lectures, and group discussion was integrated. The post- class questionnaire was completed.

**Summary of Results:** Fifteen students joined a 3- week medical English course in September 2017 with 100% survey response rate. Patient as educator was the most satisfied domain. The main reason was the immediate comments on language and clinical skills from the real patient. The most disliked parts were grammar class and paper examination. Self assessments revealed the improvements in English grammar (69%), communication skill (61.5%), confidence in English communication (69.2%), attitude toward English (69.2%), role model (76.9%), professionalism (92.3%) and aim for continuous English education (53.8%).

**Discussion and Conclusions:** Native English speaking patient involvement as an instructor and assessor in medical English has been demonstrated feasibility and satisfaction. Surprisingly, the most learned issue was professionalism. The limitation is the availability of native English speaking patient in locality. The patient educator program can be applied to clinical learning in native language.

**Take-home Messages:** Patient as a medical English educator can improve satisfaction, language acquisition and apparently enhance professionalism in medical students.

## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FF03 (555)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Preparatory course for medical students undertaking humanitarian services during Enrichment Year: Global Health competencies and course evaluation

#### AUTHOR(S):

- Dana Vackova, The University of Hong Kong, Hong Kong (Presenter)
- Mohammed Bedru Hussen Hussen, The University of Hong Kong, Hong Kong
- Janice Mary Johnston, The University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** The University of Hong Kong (HKU) Li Ka Shing Faculty of Medicine new MBBS 130th curriculum offers to medical students in Year 3 Enrichment Year (EY) a unique opportunity to enhance their total learning experience through self-tailored local or overseas learning activities in following categories: (1) research, (2) intercalation or (3) humanitarian services. Students selecting humanitarian services are required to pass the preparatory course to ensure their readiness to embark on their journey for the benefit of communities.

**Summary of Work:** The course main Global Health (GH) competencies were aligned with Consortium of Universities for Global Health, Medical Council of Hong Kong, and HKU educational aims. Interdisciplinary collaboration strategies and innovative teaching were adopted to support students' learning. A mixed method study was used for the course evaluation. The qualitative analysis of focus groups with MBBS Year 3 students (N=15) was used to analyse the main criteria important for gaining GH competencies. Marking scores using grade descriptors and students' course evaluation questionnaire were analysed quantitatively using frequency analysis and 2-tailed t test to evaluate course effectiveness.

**Summary of Results:** The course arrangement, workload, relevance to humanitarian work and assessment methods represented the main criteria for gaining GH competencies. All MBBS Year 3 students selecting humanitarian work in the first semester (N=34) passed the course (≈ 60% of the total score). The lowest sub-scores were obtained in a project assessing population needs (average score 63%) and in a quiz (average score 68%) where 8.8% of students failed. The highest sub-scores (average 79%) were obtained in problem base case studies. Students' evaluation at the end of the course showed the highest satisfaction with tutors' guidance (mean 3.74,  $p < 0.001$ ), workshops assisting students to acquire knowledge and skills needed for humanitarian work, and overall course quality (mean 3.71 and 3.55 respectively,  $p < 0.001$ ).

**Discussion and Conclusions:** The course was effective in developing students' main GH competencies to pursue humanitarian work. However, robust knowledge is essential for maximising the benefits from humanitarian activities.

**Take-home Messages:** Careful planning of learning activities and assessment strategies is necessary to ensure students' improvement in knowledge, skills, social responsibilities, and applied learning before commencing humanitarian work.

## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FF04 (1154)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Benefits of giving international students a voice in a safe arena to improve communication skills

#### AUTHOR(S):

- Tim Newson, East Kent Hospitals NHS Foundation Trust & Kings College London Medical School, UK (Presenter)
- Bruce James, Stoke Mandeville Buckingham Health Care NHS Trust & St George's International Medical School Grenada, UK
- Sally Edmonds, Stoke Mandeville Buckingham Health Care NHS Trust & St George's International Medical School Grenada, UK

#### ABSTRACT

**Background:** We provide clinical training for International students in the U.K. and have recognised that many students found the transition to NHS attachments challenging with Directors of Medical Education (DME) often expressing concerns about their communication skills.

**Summary of Work:** We devised a one day course for 9 students identified by DME as needing help with communication skills from 2013 -2018. Our aim was to give these student's a voice in a supportive, non-judgemental, safe arena with the emphasis on learning and creating new understandings. The students were asked to prepare a talk for 5 minutes without PowerPoint on a subject they felt passionately about and familiarise themselves with 3 patient scenarios in the week prior to attending. The course started with the student presentations to the group . Feedback was then related to consultation skills empowering the students performances to hopefully be transformative. They then completed scenarios each with actors, each student being the doctor and other two critiquing using a prompt tool with a facilitator. Further scenarios included paediatrics and breaking bad news .De-brief sessions were punctuated throughout. Quantitative and qualitative feedback was collected anonymously via survey at the end of each course.

**Summary of Results:** Between 2013 and 2018 53 students attended the course which was universally very well received and valued with scores of 4.5 to 6/6 ( 1=poor 6= excellent) in all domains ( content, structure and learning). 80% of presentation topics were non medical eg cultural identity, mental health, politics, inspirational role models, social media, and family. This session in all courses helped engender a safe arena and bond the group. Qualitative feedback was positive : informative, non threatening environment, practicals extremely useful, helped identify my weaknesses, gave me ideas on improving consultations, critique role helpful, role playing liked interaction, presentation fun.

**Discussion and Conclusions:** This course provided a safe arena with opportunities for students voice to be heard early in the programme aiding bonding within the group and enhancing their engagement in learning and improving communication skills.

**Take-home Messages:** Teaching international students communication skills benefits from giving a student's voice a platform within a safe non judgemental arena

## #8FF ePosters - Cross-Cultural Programmes / International Students

**8FFo5**      **WITHDRAWN**





## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FFo6 (1230)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Student support system for foreign medical students

#### AUTHOR(S):

- Hana Svobodova, 3rd Medical Faculty, Charles University, Czech Republic (Presenter)
- David Marx, 3rd Medical Faculty, Charles University, Czech Republic

#### ABSTRACT

**Background:** Since 1992 Third Medical Faculty Charles University in Prague has been admitting approximately 1/3 of students (cca 100) into the English language MD program. For many students the pressure of initial years of medical studies together with transfer into a different country, culture and language present a source of significant stress which has led in the past to premature terminating of studies or repeated study interruption, psychological issues requiring therapy (anxiety, depression) and even to suicidal attempts.

**Summary of Work:** In 2010 a new student support system was launched consisting of the following: a) launching a 24/7 helpline for students in need b) tutor system - each study group is assigned one student tutor and one faculty tutor c) contracting 2 English speaking psychologists that are available for short or long-term psychotherapy.

**Summary of Results:** During the period 2010-2018 a total number of 312 phone calls have been received and the main topics of calls are: 1) health issues 2) psychological problems (exam anxiety, sleeping problems, mood changes) 3) problems with accommodation 4) administrative problems (visa issues) 5) need for urgent interpretation.

**Discussion and Conclusions:** The poster presents analysis of the reasons for psychological referrals and comparison of study failure rates before/after introducing student support system.

**Take-home Messages:** International group of students need definitely feel a support for adaptation in a foreign country, especially psychosocial support is needed.

## #8FF ePosters - Cross-Cultural Programmes / International Students

**8FF07** (1394)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### International clinical exchange programs for medical students: perspectives and influencing factors

#### AUTHOR(S):

- Thanaphon Harnpoonvittaya, Faculty of Medicine, Srinakharinwirot University, Thailand (Presenter)
- Arucha Treesirichod, Faculty of Medicine, Srinakharinwirot University, Thailand

#### ABSTRACT

**Background:** As multi-connectivity becomes a trend in modern education, international clinical exchange programs have also grown into a significant part of medical curricular. The students are encouraged to step beyond the norms of their studies and cultures, and to explore for themselves how medicine is taught and studied around the globe.

**Summary of Work:** Self-administered questionnaires were used to determine perspectives of clinical students of Srinakharinwirot University towards the programs and the influencing factors that affect the decision-making process. Results were further compared between those who have and have not participated in these programs to determine the factors that could be withholding even greater participation.

**Summary of Results:** Regarding the perceptions towards international clinical exchange programs (n=106), both groups of participants agree that the programs help broaden their views on medical education worldwide (87.8%), made them more active in self-directed learning (82.1%), encouraged them towards improving their communication skills (95.3%), cultural adaptability skills (94.3%) and boosted their responsibility (82.0%). Both groups did not think the programs created stress (68.9%) or were a waste of time (70.8%). Comparison showed a significant difference in that the programs were more helpful in deciding future career paths for those who have participated over those who have not (p=0.024). Both suggested that future programs include an academic preparatory course (67.0%) and more financial support for each individual (91.5%). In correlation with these suggestions, academic incompetency (p<0.001) and financial shortage (p<0.001) were found to be significant inhibitory factors for non-participants. Along with them were language barriers (p=0.002) and lack of advertisement (p<0.001).

**Discussion and Conclusions:** The trend of future education will most likely involve global academic exchanges. A sensible goal would be to ensure more students have access to this opportunity. The results indicate that medical students have optimistic views towards international clinical exchanges and strategies could be instigated to provide better opportunities and enhance their global exchange experiences.

**Take-home Messages:** International clinical exchange programs are viewed productive and helpful by medical students. Further steps such as additional academic preparation and budgetary support will most likely result in greater involvement from the students.

## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FFo8 (2573)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### The Learning Experiences of International Post-Baccalaureate Medical Students in Taiwan: a qualitative study

#### AUTHOR(S):

- Pei-jung Tsai, E-Da Hospital/ I-Shou University, Taiwan (Presenter)
- Ru-yi Huang, E-Da Hospital, Taiwan
- Wan-ling Hsu, E-Da Hospital, Taiwan
- Fan-Ko Sun, I-Shou University, Taiwan
- San-nan Yang, I-Shou University, Taiwan
- Hsing-yen Hsieh, I-Shou University, Taiwan

#### ABSTRACT

**Background:** To improve the well-being of people throughout the pacific islands, Caribbean, Africa, middle and South America, Taiwan started a program to share medical education and healthcare resources to the friendly countries. This program embraced students from 15 nations that are dedicated to improve medicine and public health. The aim of this study is to explore the experience of international medical students training in Taiwan Medical College.

**Summary of Work:** This study is a qualitative research with trained interviewers. We planned to enroll 20 fourth-year students or until reach the data saturation. Results were analyzed using Colaizzi's seven research and analytic steps with NVivo11 software. There are five areas in the semi-structured in-depth interview outline: life, academic and clinical learning, interpersonal relationship and cross-cultural medical experiences.

**Summary of Results:** The initial sub-themes from fourth-year students on life experience: hard to adapt to the food and dorm life in the beginning, but are most satisfied with Taiwan's transportation and information technology. On academic and clinical learning experiences: their major concern is whether the program recognized by their local university and hospitals. The challenges were highly-packed learning schedule, language barrier which affected practicing hands-on skills, but found that teaching teams were helpful. On the interpersonal relationship: feeling friendly atmosphere in Taiwan, but still comfortable within their own ethnic group. On cross-cultural experience: adjust to local Taiwanese norms regarding behavior, eye contact, religion and holidays.

**Discussion and Conclusions:** Adjustment of life and culture is hard initially, but also benefit in forming different viewpoints. The language barrier made communication difficult, and impeded their practice of hands-on skills and procedures. Noteworthy, some students were worried about the unstable diplomatic relationship and if the program could be recognized locally. The results provide schools useful information to improve their curriculum through understanding the experience of international medical students who are studying abroad.

**Take-home Messages:** It is crucial to develop the cultural competence and methods to conquer language barrier when setting an international medical education program, so to achieve a better global healthcare.

## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FF09 (3362)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Clinical, social and educational analyses of a University Extension project at a Riparian Community

#### AUTHOR(S):

- Ricardo Costa, Barretos School of Health Sciences Dr. Paulo Prata - FACISB, Barretos, São Paulo, Brazil (Presenter)
- Amanda Gonçalves Costa, Barretos School of Health Sciences Dr. Paulo Prata - FACISB, Brazil
- Roberta Thome Petroucic, Barretos School of Health Sciences Dr. Paulo Prata - FACISB, Brazil
- Lucas Henrique Viza Amorim, Barretos School of Health Sciences Dr. Paulo Prata - FACISB, São Paulo
- Alicia Monte Vicente Medina, Barretos School of Health Sciences Dr. Paulo Prata - FACISB, Brazil
- Flavio Mavignier Cárcano, Barretos School of Health Sciences Dr. Paulo Prata - FACISB, Brazil

#### ABSTRACT

**Background:** Social accountability mobilizes the individual to act in a disinterested and gratuitous way, sacrificing their good for the good of others. Developing this concept in medical students, through experiences that extrapolate the curricular environment and by teaching them about their role in the society, is fundamental for proper medical training. The 'Ribeirinho Project' was a University Extension project which consisted in giving assistance in preventive and basic health to a riparian community, in the Amazon surroundings, Brazil. The community has fishing as source of livelihood, high rate of illiteracy and lives far from the main health care centers. The aim of the study was to analyse the clinical, social and educational outcomes of the Ribeirinho Project.

**Summary of Work:** Cross-sectional study analysing the care of a riparian community. Demographic, social and health variables, were collected between 2016 and 2017. Also, the perception of the medical students committed to the project was obtained through a questionnaire.

**Summary of Results:** 204 subjects (age > 21 year) were attended and mostly were women (68.1% in 2016; 63.6% in 2017) and brown people (90.0% in 2016; 49.4% in 2017). Data from 2017 showed that 85.4% of the subjects didn't have treated water at their homes. The main reason to seek medical care was pain (23.3% in 2016; 22.7% in 2017). All the 14 students understood that being committed to the project contributed to their medical training and improved their understanding about the impact of psychosocial aspects on the health-disease process, while the majority believed that the project improved their empathy (85.7%) and technical skills (71.4%).

**Discussion and Conclusions:** Brazilian riparian communities present strong needs for basic health care and reaching out these populations should be part of the social accountability of medical schools, providing also a differentiated medical training focused on humanized medicine. The students recognized that the Ribeirinho Project contributed to their medical training.

**Take-home Messages:** The development of extension projects at communities living in precarious conditions enrich the medical education process while improving the well-being of people in need.

## #8FF ePosters - Cross-Cultural Programmes / International Students

### 8FF10 (3443)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Crystal Lounge, Level 1

### Achieving Cultural Competency through a Blended Teaching Program - Creating a culturally safe environment

#### AUTHOR(S):

- **Pei-Ling Wu, E-Da Hospital, Taiwan (Presenter)**
- Wei-Lin Chin, EDA Hospital & I-SHOU University, Taiwan
- Ru-Yi Huang, EDA Hospital & I-SHOU University, Taiwan
- I-Ting Liu, EDA Hospital & I-SHOU University, Taiwan
- Pei-Jung Tsai, EDA Hospital & I-SHOU University, Taiwan
- Chi-Wei Lin, EDA Hospital & I-SHOU University, Taiwan
- San-Nan Yang, EDA Hospital & I-SHOU University, Taiwan

#### ABSTRACT

**Background:** The international medical education program which recruited students from culturally and linguistically diverse backgrounds is challenging. Hence, the School of Medicine for International Students set up a specific educational program to improve better teaching of cultural competence on patient care. This study aims to understand the effects of this program on enhancing cultural competency.

**Summary of Work:** We designed (1) One oriented training of cross-cultural patient-centered care model, strengthened with small group discussion and video demonstration. (2) Five cross-cultural workshops in the faculty development program. (3) The teaching team, composed of attending physicians, postgraduate year-1 residents, and international medical students, rotates together. The CAST questionnaire was performed to evaluate the knowledge, attitudes, and skills for cultural competency every season for one year. The non-parametric tests of Wilcoxon rank sum test and Kruskal-Wallis test were performed with SAS 9.2 software.

**Summary of Results:** 35 international medical students(IMS), 77 local medical students(LMS), 27 postgraduate year-1 residents(PGY), and 18 attending physicians(P) responded. The cultural knowledge (p-value:0.01) and skill (p-value:0.001) were significantly different between attending and non-attending groups (resident and medical students). The ranking of CAST was: cultural knowledge: IMS>LMS=PGY=P (p-value:0.003); attitude: IMS>LMS=PGY>P(p-value:0.48); skill: IMS>PGY=P>LMS (p-value:0.02, <0.001).

**Discussion and Conclusions:** The unique program enhances cultural-competent knowledge and skills of international medical students when compared to local students and postgraduate year-1 residents. Nonetheless, the faculty training modules barely improve the cultural aware practice which indicates that cultural education could start earlier in the educational process. However, the culturally-appropriate attitude did not differ between teachers and students. One possible explanation is that a teaching team with peer support could foster an atmosphere of proper cultural awareness. To summarize, in our study, developing an effective training program needs to include lectures, group discussions and team assisted learning to improve cultural awareness, cultural sensitivity and skills.

**Take-home Messages:** Implementing the effective teaching methods for cultural competency of international medical education programs is crucial. Trainees especially the international medical students gain better knowledge and skill through the designed cultural program.



## #8GG Posters – Surgery Education

### 8GG01 (1289)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Does Technology Cause a Placebo Effect in Medical Education?

#### AUTHOR(S):

- Carl Gustaf S Axelsson, Department of Surgery, Massachusetts General Hospital, Harvard Medical School, USA (Presenter)
- William T Curry, Department of Neurosurgery, Massachusetts General Hospital, Harvard Medical School, USA
- Michael Healy, Department of Surgery, Massachusetts General Hospital, Harvard Medical School and NEJM Group, USA
- Emil Petrusa, Department of Surgery, Massachusetts General Hospital, Harvard Medical School, USA
- Deborah Rooney, Department of Learning Health Sciences, University of Michigan, USA
- Roy Phitayakorn, Department of Surgery, Massachusetts General Hospital, Harvard Medical School and NEJM Group, USA

#### ABSTRACT

**Background:** Medical education research and teaching has become increasingly focused on measuring objective outcomes attributable to specific educational technology interventions. However, little scholarly work discusses the potential for placebo effects on these outcomes. Two common measures of the effectiveness of educational interventions are increased self-efficacy and knowledge. We studied changes in both of these outcomes with a randomized controlled intervention of neurosurgery video-based education modules with medical students in their surgical clerkship.

**Summary of Work:** A two-week asynchronous, video-based curriculum for four key topics in neurosurgery (Intracranial Hemorrhage, Neuro-Imaging, Hydrocephalus and Glasgow Coma Scale) was created and implemented for groups of Harvard Medical School clerkship students (n=65). On day 1 of the study, each student was randomly assigned to one of two pairs of videos and given a pre-test for knowledge and self-efficacy on all four topics. On day 14, students completed a post-test for knowledge and self-efficacy on all four topics. Subsequent statistical analysis was performed.

**Summary of Results:** Comparing pre- to post-intervention for all students in the study and all topics, both self-efficacy (+1.37, p=0.001) and knowledge (+6%, p=0.001) significantly increased. Students who watched the modules (n=53) increased their knowledge (p=0.03) and self-efficacy (p=0.024) from pre- to post. Students who did not watch the modules (n=12) showed no change in knowledge (58.8% vs 58.3%, p=0.830), but a significant increase in their self-efficacy ratings (+1.42, p=0.009).

**Discussion and Conclusions:** All students enrolled in the study significantly improved their content-related self-efficacy, yet only students who watched the modules demonstrated a simultaneous and significant knowledge increase. This placebo effect may be due to potential access to the new education technology or maturation bias within the clerkship even though neurosurgery content is not specifically addressed anywhere else within the clerkship.

**Take-home Messages:** This study emphasizes the need for strict quality control of external biases when assessing new education technologies.

## #8GG Posters – Surgery Education

### 8GG02 (387)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Vaginal Delivery Manikin Test Effect National License Score in Undergraduate Medical Learning

#### AUTHOR(S):

- Phornsawan Wasinghon, Buddhachinnaraj Hospital, Thailand (Presenter)
- Auttaya Ratanakaew, Buddhachinnaraj Hospital, Thailand

#### ABSTRACT

**Background:** Vaginal delivery is a fundamental skill test. The pretest-national licenses examination should be prepared before the medical students will have the core national licenses examination at the medical council examination centre.

**Summary of Work:** Forty-six of sixth-year medical students had the vaginal delivery manikin test at the obstetrics and gynaecology department after one week of labor room rotation. All 57 of sixth-year medical students had the vaginal delivery with the involved-umbilical cord on the neck of a newborn for pretest-national licenses examination (pretest-national licenses) at Buddhachinnaraj Hospital.

**Summary of Results:** All 57 of sixth-year medical students have been assigned to study in every ward while the male and female is 25 and 32 respectively. One-sixth-year medical student did not have both examinations. The 46 of medical students had rotated at a labor room ward. The 11 of medical students had no manikin test before rotation. Mean of the vaginal delivery manikin score was 88.67 with the scores of minimum and maximum were 52 and 100 respectively. The pretest-national licenses had arranged for the 56 of medical students. The pretest-national licenses score was significantly less than the vaginal delivery manikin examination ( $p < 0.05$ ). Mean of the pretest-national licenses score was 47.28, the scores of minimum and maximum were 11 and 90.5 respectively. Mean of the pretest-national licenses score in the vaginal delivery manikin test group was 53.94 and the non-manikin test group was 21.35, while both two groups had significant difference score ( $p < 0.05$ ). Passing level of the pretest-national licenses was more than 60, the 18 of the sixth-year medical students had passed the exam with the mean of 72.94 while the minimum and maximum score was between 60 and 97.5. The mean of non-passed of the pretest-national licenses was 35.43 on the 39 of the sixth-year medical students.

**Discussion and Conclusions:** By the effect of excitement, the medical students could not concentrate on the advanced skill test. A comprehensive studying and the problem-based scenarios with a mannequin will be useful for the medical students to learn by themselves for long memory and realization.

**Take-home Messages:** The medical students have to learn by themselves for long memory and realization.

## #8GG Posters – Surgery Education

### 8GG03 (256)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Accreditation on Routine Practice to Improve Patient Safety - from Clinical Pathway to Medical education

#### AUTHOR(S):

- Chih-Chien Cheng, Taipei City Hospital, Taiwan (Presenter)

#### ABSTRACT

**Background:** Educational competencies for the medical assistants are very important and can be performed in a various ways by medical educators. The intended purpose of our goal is to provide evaluation methods and educational procedures for meeting competencies of medical assistants in order to improve patient safety. Vaginal gauze packing is an effective, rapid, and convenient hemostatic procedure carried out either after trans-vaginal surgery or vaginal delivery. Retained vaginal gauzes following procedures are increasingly recognized as a problem. If not removed, it might lead to fever, pain, infection, hemorrhage and psychological problems. Retained surgical gauze is a preventable problem but continues to occur periodically. Prevention remains the key to this problem.

**Summary of Work:** To develop the educational competencies for the medical staffs/assistants, we used lean concepts and documentations including training and education regularly. We designed a clinical pathway which provide the medical assistants/nurses a checklist and double-checked documents in order to avoid the possibility of retained vaginal gauze jeopardized to patients' safety.

**Summary of Results:** There are seven branch hospitals of Taipei City Hospital with total 3,103 beds and 17,809 day surgeries (office procedures) in 2018. Before this educational strategy/concepts performed, there has been three cases in 2016 and two cases in 2017 of retained vaginal gauzes reported. Tracing back year 2018, there has no retained vaginal gauze reports after our educational model performed. The pathway is provided as a curricular guide for medical assistants and nurses developing cognitive objectives, performance objectives, evaluations and teaching materials and methods.

**Discussion and Conclusions:** The intended purpose of our subject is to provide methods and educational procedures in a curriculum for purposes of accreditation, but this concept provides ideas and evaluation methods that can be used clinically. With pre-assessments and post-educational evaluations, this performance of the clinical pathway based on outcome assessments and improvement of patient safety were promising.

**Take-home Messages:** Educational competencies for the medical assistants are important and can be performed in a various ways by medical educators. Our subject provided evaluation methods and educational procedures to improve competencies of medical assistants in order to highlight patient safety.

## #8GG Posters - Surgery Education

### 8GG04 (1522)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Assessment of knowledge and work-placed based education of transfusion medicine in tertiary care, non-university hospital, a pilot study

#### AUTHOR(S):

- Yada Siriphannon, Buriram Medical Education Center, Thailand (Presenter)
- Detdana Wannapong, Buriram Medical Education Center, Thailand
- Narin Chindavech, Buriram Medical Education Center, Thailand
- Rungrapa Pengprakhon, Buriram Medical Education Center, Thailand
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#### ABSTRACT

**Background:** The current curricula in medical schools and hospital worldwide lack exposure to blood transfusion medicine, and require the reformulation of academic programs. In many countries, training in blood transfusion is not currently offered to medical students or during residency. Our previous clinical practice indicates that blood transfusions occur more frequently than recommended, contributing to increased risk of this procedure. Therefore, the rational use of blood and its components is essential for medical students, due to the frequent undesirable reactions.

**Summary of Work:** A cross-sectional 2 months study, a multidisciplinary team consisted of clinical pathologist, hematologist, blood bank scientist, blood bank nurse rotated to all IPD in hospital to educate and evaluate. Physicians' knowledge was assessed by the questionnaires comprising of 20 questions and 5 case-scenarios addressing basic knowledge, clinical aspects of blood use, threshold transfusion trigger, transfusion reactions, blood safety and hemovigilance, first aid in blood donors. Total score was 25 and duration session was 40 minutes with debriefing feedback after completed. Prospective regular schedule re-assessment was planned.

**Summary of Results:** Total of 112 physicians were participated (71.4% junior doctors and intern, 19.6% medical students, 9.0% residents), rotated in department of surgery 62.5%, medicine 28.6%, age range 22-45 years and female was 54.4%. The common transfusion errors were prescribing errors 76.5%, monitoring transfusion reactions 17.9%, emergency cross match errors 2.3% due to human errors and multifactorial causes. The hemoglobin transfusion threshold was  $9.1 \pm 1.7$  g/dL in surgery higher than medicine department,  $7.5 \pm 1.2$ ,  $p < 0.05$ . Overall knowledge score was  $17.5 \pm 3.8$ , especially low in clinical aspects of blood used and transfusion reactions. Knowledge score slightly decreased with increasing years of practice ( $p < 0.05$ ). Eighty percent of physicians believed that they required special education to raise their transfusion medicine knowledge.

**Discussion and Conclusions:** Knowledge of physicians was lower than the expected level. Therefore, educational materials concerning transfusion medicine should be provided in initial step and required long term monitoring and comprehensive corrective feedback.

**Take-home Messages:** Continuous medical education program should be offered so that the level of transfusion medicine knowledge can be improved.

## #8GG Posters - Surgery Education

### 8GG05 (1885)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Chunk training versus holistic training for trauma boot camps

#### AUTHOR(S):

- Osaree Akaraborworn, Prince of Songkla university, Thailand (Presenter)
- Burapat Sangthong, Prince of Songkla university, Thailand

#### ABSTRACT

**Background:** Bootcamp in education has a role to increase the confidence of learners. The learning experiences can be chunk training which is easier for learners to learn or holistic training or holistic training which give students more clinical correlation. This study aimed to compare which approach could improve the confidence of students in trauma resuscitation better.

**Summary of Work:** Methods The boot camps were held for the last year medical students. The first group received the chunk training of essential skills in trauma resuscitation which consisted of the primary survey, the secondary survey, pelvic binding, splinting of fracture, FAST(Focused Assessment with Sonography in Trauma), and c-spine collar application. The second group received the holistic training which consisted of six trauma scenarios on simulated patients and each scenario integrated essential skills. The confidence of the students was assessed by questionnaire before and after the boot camp.

**Summary of Results:** There were 344 students, 167 students received the chunk training and 177 students received the holistic training. Forty-seven percent of the students had participated in trauma resuscitation before the boot camp. The confidence of the students before the boot camp did not show a difference between 2 groups (5.3 vs 5.4 (1 to 10 scale),  $p = 0.50$ ). After the boot camp, the confidence of the students increased significantly (7.3 vs 7.9,  $p < 0.001$ ). The difference of confidence between pre and post boot camp also significant between 2 groups (2 vs 2.5,  $p < 0.001$ ).

**Discussion and Conclusions:** Conclusions The holistic training was a better approach to enhance the confidence of students in trauma resuscitation when compared with the chunk training.

**Take-home Messages:** Trauma resuscitation is a high acuity, a low-frequency situation which leads to low confidence in medical students. A boot camp is a method to enhance the confidence and using the holistic approach on the boot camps is better.



## #8GG Posters - Surgery Education

### 8GG06 (167)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Do medical students understand the educational benefits in attending the operating theatre?

#### AUTHOR(S):

- Shahid Bukhari, University College London Medical School, UK (Presenter)
- Emma Obiri-Darko, University College London Medical School, UK
- Jenan Younis, University College London Medical School, UK
- Tarek Abdel-Aziz, University College London Medical School, UK

#### ABSTRACT

**Background:** It has been recognised that surgical education digresses from traditional undergraduate teaching methods and thus, medical students have difficulty harnessing its merits. Operating theatre experience provides a useful educational adjunct to undergraduate teaching, allowing multiple curricula objectives to be met. Our aim was to establish whether students from a UK medical school understand the potential learning objectives in attending the operating theatre.

**Summary of Work:** A PubMed literature search was undertaken and a validated questionnaire was identified and used in this study. This was distributed to University College London Medical School (UCLMS) students who had completed their surgical placements. Questions involved asking students understanding of their learning outcomes from attending the operating theatre and whether they thought their time in theatre was beneficial.

**Summary of Results:** 55 medical students participated. 54% of respondents reported that they did not find their time in the operating theatre beneficial ( $p < 0.05$ ). 93% stated that they did not understand their learning outcomes from attending the operating theatre ( $p < 0.05$ ).

**Discussion and Conclusions:** A statistically significant number of UCL medical students did not understand their learning outcomes in attending the operating theatre and as result may not be harnessing the full educational value. The operating theatre has been shown to be beneficial in a number of ways such as consolidating clinical learning as well as educating students regarding the multidisciplinary team, effective teamwork, patient safety and professionalism. These are all aspects that have been highlighted as priorities in the GMC outcomes for graduates. Establishing clear learning objectives is crucial to facilitating more valuable educational environments. This can be extrapolated to the operating theatre which may improve undergraduate surgical learning experiences.

**Take-home Messages:** Establishing clear learning objectives regarding operating theatre attendance may serve to enhance the undergraduate surgical education.

## #8GG Posters - Surgery Education

### 8GG07 (1773)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning FAST skill for small group using OSCE checklists

#### AUTHOR(S):

- Smith Soimadee, VachiraPhuket Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** In learning session of focus assessment with sonography in trauma (FAST) skill we have one teacher per 8 students. They were accomplished in pre skill lab session about basic knowledge of ultrasound and FAST. How to enhance learning and engage them in this limited resources and time come to be this model of teaching.

**Summary of Work:** The study included one teacher and 8 5th-year medical students, participating in class. OSCE checklists were used to guide their observation and feedback. The activity took place in 3 hours period. Phase 1. Mannequin 1. Teacher demonstrate FAST at his normal pace without any comment 2. Then repeats and describes all necessary sub-steps. 3. One student performed FAST on the mannequin within 5 minutes and the others do OSCE checklists for evaluation 4. Teacher and peers feedback. 5. Step 3 and 4 repeated in turn until the last student Phase 2. Real patient The student perform FAST examination on his own within 5 minutes and was evaluated and feedback by their peers and teacher.

**Summary of Results:** Phase 1. Nearly all of them (7/8) did not show precaution of angulation at the junction of line and probe. The difficult part is left upper quadrant and subxyphoid view. Five students cannot show a good picture for that view. Half of them did not handle the probe correctly and forget to orientation probe at subxyphoid view. Three students cannot demonstrate hepatorenal pouch and caudal tip of liver. Phase 2. Most of them (5/8) can pass with score 100%. Some student continue confusing about how to handling probe, orientation and get a good picture for sub xyphoid view. They feel that the mannequin is so stiff not like the real patient. But they can pass with score 94, 96 and 98 %.

**Discussion and Conclusions:** Teaching FAST in small group using OSCE checklist as a tool to gain attention and formation of concept can bring a satisfactory result in learning. The students can see their teacher and friends, do by themselves at least 2 times, give and received feedbacks from each other and teacher.

**Take-home Messages:** OSCE checklists can be used as a tool to enhance learning.

## #8GG Posters - Surgery Education

### 8GG08 (1183)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Silence of the Lambs? Feedback seeking behavior of residents in the operating room

#### AUTHOR(S):

- Abhilash Balakrishnan, Singapore Health Services, Singapore (Presenter)
- Heng Wai Yuen, Singapore Health Services, Singapore
- Kum Ying Tham, National Health Group, Singapore

#### ABSTRACT

**Background:** Operating room (OR) learning is a cornerstone of education for surgical residents; there is a lack of understanding of FSB in the OR, particularly in an Asian setting. There are multiple, often conflicting factors that may impact learning in the OR. Attending surgeons and residents also have large disparities in their perceptions of intraoperative teaching and feedback. Therefore, FSB of residents is critical for learning. This study aims to explore Otolaryngology residents' perception and understanding of, and attitudes towards FSB in the OR, and to elucidate the factors that influence FSB.

**Summary of Work:** A qualitative approach with a constructivist perspective was used. A purposive sample of Otolaryngology residents (R3-5) in two residency programs participated in semi-structured, one-on-one interviews. All interviews were audio-recorded, rendered anonymous and transcribed verbatim. The transcripts were analyzed using a conceptual framework, and coded using template analysis. The themes were interpreted, and a framework of residents' FSB was built.

**Summary of Results:** Five key themes were identified: national culture, residents' intrinsic understanding and perception of FSB, antecedents of FSB, perception of cost-benefit value, and enactment of FSB; national culture was an integrative theme. Some findings were unique to FSB in the OR in an Asian setting. Interplay and tension among the themes shape the cost-benefit perceptions of the residents in determining the timing and strategy for enacting FSB. Indirect inquiry (followed by monitoring and direct inquiry) at the end of the surgery is the most common strategy used.

**Discussion and Conclusions:** Multiple factors, related to the roles of learners, faculty, and institution, influence residents FSB in the OR, and have psycho-emotional implications. Further studies should examine specific influences and strategies and the cross-cultural implications, to inform measures for fostering FSB in the OR.

**Take-home Messages:** Studies on feedback have emphasized the feedback-seeking behavior (FSB) of the learner. Different factors including one's culture arising from ethnicity or nationality, can influence FSB.

## #8GG Posters - Surgery Education

### 8GG09 (609)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Effect of Using Counseling Checklist in Colonoscopy Counseling Course for Colorectal Cancer Screening Patients in Fourth Year Medical Students, Vachira Phuket Hospital

#### AUTHOR(S):

- Nutchaya Sukon, Vachira Phuket Hospital, Thailand (Presenter)
- Kawintharath Harirugsakul, Vachira Phuket Hospital, Thailand
- Bundit Wannasuphapol, Vachira Phuket Hospital, Thailand

#### ABSTRACT

**Background:** Colonoscopy is a gold standard for screening colorectal cancer, the third most commonly cancer, recommended by NCCN. However, bowel preparation is a crucial step for success. Thus, this colonoscopy counseling course and checklist are developed to train medical students to be future general practitioners who would be able to advice patients properly.

**Summary of Work:** This study was conducted as randomized controlled trial study and included all fourth-year medical students. The course provided pre-test, lecture, practical test, and post-test. Developed checklist was reviewed by surgery staffs. Students had to counsel simulated patient and was separated to two groups: experimental group (with checklist), control group.

**Summary of Results:** There are 11 and 13 students in experimental and control group accordingly. Their qualification are not significantly different (GPA, experience, pretest score). Posttest score is significantly different from pretest in both groups (experimental group:  $p\text{-value} = 6.99 \times 10^{-8}$ , control group:  $p\text{-value} = 2.44 \times 10^{-8}$ ), but not significantly different between groups ( $p\text{-value} = 0.25$ ). Confident score is raising after participated, but score in control group (Mean = 3.46) is higher than experimental group (Mean = 3.09) with  $p\text{-value} = 0.05$ . Practical score between groups is not different ( $p\text{-value} = 0.38$ ). Additionally, advising about symptoms and preparation at procedure date is only one aspect that the experimental group perform better. However, students consider that checklist is helpful (81.82% in experimental, 92.30% in control group).

**Discussion and Conclusions:** Using checklist has insignificant benefit statistically though students consider there is benefit to use it. Furthermore, students in experimental group are able to advise about symptoms and preparation at procedure date better than control group. Therefore, it is implied that checklist is useful but require advanced development for users friendliness.

**Take-home Messages:** Colonoscopy course is helpful for medical students in patients preparation. Though checklist is required, being familiar with and carefully use is suggestive.

## #8GG Posters - Surgery Education

### 8GG10 (583)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The impact of extracurricular surgical experience on veterinary students' performance of canine ovariohysterectomy and orchidectomy in a clinical skills curriculum

#### AUTHOR(S):

- Julie Williamson, Lincoln Memorial University College of Veterinary Medicine, USA (Presenter)
- Stacy Anderson, Lincoln Memorial University College of Veterinary Medicine, USA
- Julianne White, Park Equine Hospital, USA
- Christopher Kelly, Lincoln Memorial University College of Veterinary Medicine, USA
- Dawn Spangler, Lincoln Memorial University College of Veterinary Medicine, USA

#### ABSTRACT

**Background:** Veterinary students frequently pursue extracurricular surgical experiences before performing surgery in their curriculum. How these experiences impact students' confidence and subsequent surgical performance is not known.

**Summary of Work:** We sought to evaluate the impact of extracurricular surgical experiences on students' first canine surgery performed during their veterinary school curriculum. We enrolled 69 third year students to complete pre- and post-operative surveys reporting confidence to perform surgery as part of their clinical skills curriculum and self-assessing their surgical performance. Students previously completed five semesters of surgical skills training on models, but varied in their participation in extracurricular surgical experiences. A subset (n=27) were digitally recorded while performing ovariohysterectomy (16) or orchidectomy (11) under the supervision of a licensed veterinarian. Digital recordings of their surgical performances were scored by a blinded rater using task-specific rubrics and a global rating scale. Surgical time was recorded.

**Summary of Results:** The number of extracurricular surgeries that students had performed was correlated with their confidence to perform orchidectomy ( $r=0.78$ ) but not ovariohysterectomy ( $r=-0.17$ ). There was no correlation between extracurricular surgeries performed and subsequent rubric scores or surgical times for ovariohysterectomy ( $r=-0.01$ ,  $r=-0.14$ ) or orchidectomy ( $r=0.09$ ,  $r=-0.18$ ).

**Discussion and Conclusions:** Previous extracurricular surgical experiences did not impart an improvement in performance scores or surgical time during students' first ovariohysterectomy or orchidectomy of their veterinary curriculum, though it did increase their confidence to perform orchidectomy, the easier of the two surgeries. We did not find an improvement in performance scores, perhaps because of temporal decay of students' skill prior to performing their scored surgery. Alternatively, the extensive model training our students underwent previously may have prevented us from detecting a difference by eliminating true surgical novices from the study.

**Take-home Messages:** Practice is key in learning surgical skills; however, extracurricular surgical experience undertaken by students prior to performing live surgery in their veterinary curriculum demonstrated little measurable value in this study where student confidence, skill, and surgical duration were assessed several months later. Additional research is necessary to clarify how model training and live extracurricular surgical experiences interact to affect students' subsequent surgical performance.



## #8GG Posters - Surgery Education

### 8GG11 (3306)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### How to work smarter not harder - a structured morning handover meeting saves time and improves learning outcomes

#### AUTHOR(S):

- Per Helligsø, South Jutland Hospital, Aabenraa, Denmark (Presenter)
- Jan Krzak, University of Copenhagen, Denmark
- Mads Rye Bjerregaard MD, South Jutland Hospital, Aabenraa, Denmark
- Ada Krzak, University of Cambridge, UK
- Emilie De Leon, University of Copenhagen, Denmark

#### ABSTRACT

**Background:** Optimization of work schedule is an easy strategy to improve efficiency and increase productivity. The morning surgical handover meeting at our hospital was identified as a potential target for such an improvement. Firstly, the handover was combined with the radiology multidisciplinary meeting. Secondly, the agenda for the meeting was changed from brief discussion of every admission in the previous 24 hours to a detailed discussion of the 2-4 most complex cases. The aim of this study was to assess the impact and attitudes towards the new framework.

**Summary of Work:** Questionnaires about time efficiency, educational value, relevance and opportunities for further discussion were distributed to all doctors participating in the meeting. All parameters were assessed with a scoring system ranging from 1 (low/irrelevant) to 5 (high/highly relevant).

	Before (n=26)	After (n=26)	P-værdi
Question 1: Time efficiency (mean/median)	2.01 / 2	4.12 / 4	<0.01
Question 2: Educational value(mean/median)	2.69 / 3	3.92 / 4	<0.01
Question 3: Relevance(mean/median)	2.58 / 2	3.65 / 4	<0.01
Question 4: Opportunities for further discussion (mean/median)	2.50 / 2	4.00 / 4	<0.01

**Summary of Results:** We received 26 (82%) completed questionnaires. Scores reported before and after introduction of the new framework were: 2.01 and 4.12 ( $p<0.01$ ) for time efficiency; 2.69 and 3.92 ( $p<0.01$ ) for educational value, 2.58 and 3.65 ( $p<0.01$ ) for relevance; 2.50 and 4.00 ( $p<0.01$ ) for opportunities for further discussion.

**Discussion and Conclusions:** We observed a statistically significant improvement in the assessed parameters after introduction of the new framework. By integrating the morning handover meeting with the radiology MDT and shifting the focus to discussion of the challenging cases, we improved educational value and efficiency of the meeting, while allowing the salvaged working time to be dedicated to other duties.

**Take-home Messages:** A structured morning handover meeting saves time and improves learning outcomes, while allowing the salvaged working time to be dedicated to other duties.

## #8GG Posters - Surgery Education

### 8GG12 (2326)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### McSTU: Multi-disciplinary Course in Theatre Skills Training of Undergraduates

#### AUTHOR(S):

- **Fatima Nawrozzadeh, London North West University Hospital NHS Trust, UK (Presenter)**
- Nicola Schunke, London North West University Healthcare NHS Trust, UK
- Monica OMalley, London North West University Healthcare NHS Trust, UK
- Aynkaran Dharmarajah, London North West University Healthcare NHS Trust, UK

#### ABSTRACT

**Background:** The operating theatre environment is a complex multi-disciplinary community of practice where inter-disciplinary communication and teamwork are vital to patient safety. Theatre experience is essential in medical education, but students are often seen hovering awkwardly in the peripheries. Student perceptions of theatre experience highlight that they feel intimidated and under-prepared, often passively involved.

**Summary of Work:** The McSTU course consists of a mix of in-situ simulation and skills-based teaching designed to introduce the theatre environment taught by multi-disciplinary faculty. The main aims of the course were to improve understanding of the theatre team roles, patient safety and clinical skills in-situ. The objectives were to increase student engagement, enabling them to make the most of their surgical attachment. The course was open to third year medical students and other newly appointed healthcare staff in theatres.

**Summary of Results:** In total, from 2015-2017, 65 third year medical students, 3 recovery nurses, 1 perioperative nurse and 2 trainee Operating Department Practitioners completed the course. Students agreed that the course matched their learning needs (88.7%), made them comfortable in the theatre environment (94.4%), addressed non-technical skills (88.7%), facilitated better understanding of team roles (93.0%), safety and risks (91.5%).

**Discussion and Conclusions:** The course was generally welcomed and viewed positively. The majority on the course were medical students with a few newly appointed permanent staff. This is due to small turnover of staff, with variable availabilities and conflicts with the medical student timetable. We covered the medical student surgical curriculum and at the same time managed to impact aspects of the 'hidden curriculum', positively influencing medical student perceptions of the operating theatre, patient safety culture and the wider team.

**Take-home Messages:** Multidisciplinary in-situ learning in the theatre setting is an effective way to improve non-technical skills such as team work and communication skills in a high-risk setting. It also enables students to feel more comfortable in the theatre environment, and encourages them to take on a more active role. It can be challenging to set up and involve all members of the wider team, but this can be factored in when planning sessions.

## #8GG Posters - Surgery Education

### 8GG13 (2066)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Effectiveness of inter-professional education through a nursing attachment for medical students in Singapore

#### AUTHOR(S):

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- Kar Yen Mok, Tan Tock Seng Hospital, Singapore
- Kaushal Amitbhai Sanghvi, Tan Tock Seng Hospital, Singapore
- Cheong Wei Terence Huey, Tan Tock Seng Hospital, Singapore
- Qinghui Sarah Lu, Tan Tock Seng Hospital, Singapore

#### ABSTRACT

**Background:** Effective inter-professional education (IPE) and collaboration has long been shown to enhance team work and increase job satisfaction amongst healthcare workers. Improvement in patient outcomes, reduction in medical errors and positive patient experiences are amongst some of its other benefits. The importance and advantages of inter-disciplinary collaboration has been widely acknowledged in Western countries and it is slowly gaining recognition in Asia. To our knowledge, IPE is not routinely taught in local medical schools in Singapore and there are few opportunities for inter-disciplinary collaboration during clinical rotations. We sought to evaluate the effectiveness of inter-professional education through a nursing attachment for medical students in Singapore.

**Summary of Work:** All third year medical students rotated to the General Surgery Department in a tertiary hospital in Singapore over a 4-month period were enrolled in this study. Each student was scheduled to assist a nurse for a full nursing shift in the general surgical ward. The remodelled Interdisciplinary Education Perception Scale (IEPS) was administered at the beginning and end of their surgical posting. Further Subscale analysis (Subscale 1: Competency & Autonomy; Subscale 2: Perceived need for cooperation; Subscale 3: Perception of actual cooperation) based on the remodelled IEPS were undertaken. Data were analyzed with the Student's paired t-test.

**Summary of Results:** 24 medical students completed both the pre and post questionnaires. On overall analysis, significant improvements were found in male students' overall attitudes to inter-professional collaboration. Gender stratified analysis showed that improvements were observed in subscale 3 (Perception of actual cooperation). Having a healthcare worker in the family, previous healthcare work experience or previous hospitalization did not influence the students' attitudes to IPE. On the contrary, students without any previous healthcare work experience nor hospitalizations showed improvements in subscale 3.

**Discussion and Conclusions:** This study suggest that an interdisciplinary workplace observation and practice based attachment for medical students is instrumental in nurturing positive inter-professional attitudes. It should be introduced early on in their training to complement core curriculum for maximal benefit.

**Take-home Messages:** Practice based interdisciplinary attachment should be encouraged amongst all healthcare students.

## #8GG Posters - Surgery Education

### 8GG14 (2839)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Does the surgeon's assistant role affect medical students' confidence levels in surgical airway management?

#### AUTHOR(S):

- Sorracha Sophanate, Ratchaburi Medical Education Center, Ratchaburi Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Surgical airway management, such as, transtracheal needle ventilation, cricothyroidotomy, percutaneous or open tracheostomy should have taken place when endotracheal intubation cannot be achieved by direct laryngoscopy, especially in emergency condition. Otolaryngology department, Ratchaburi medical education center has established a surgical airway management session (SAMS) for fifth year medical students over the last 3 years. This session consists lecture, demonstration, mannequin training and attending as surgeon's assistants (SA) in elective tracheostomy surgical field. However, due to time limitation and the number of patients, every student could not have a chance to fulfill SA role. This study aims to compare knowledge and confidence levels after SAMS in 2 groups; SA and observers.

**Summary of Work:** A prospective study was performed in fifth-year medical students, during otolaryngology rotation in January-March of 2016-2018. The class was a 3-hour session consisting of basic knowledge of SAM, video presentation, mannequin training and attending as surgeon's assistants (SA) in elective tracheostomy cases. All of students introduced themselves to patients and relatives. Informed consent was a process for getting permission before conducting. Knowledge assessment was determined by a ten-question, pre-test and post-test. At the end of the class, the students completed their 5-point Likert scale confidence level evaluation questionnaire.

**Summary of Results:** Of the 93 medical students, 45 students were SA. The median scores, interquartile range (IQR) of post-test, between SA and observers, was not different (8, IQR 8.0-9.5 vs 8, IQR 8.0-8.5,  $p=0.98$ ). Moreover, the student median confidence level, IQR after training, was similar (4, IQR 4.0-5.0 vs 4, IQR 4.0-5.0,  $p=0.36$ ). Overall, medical students improved scores (5, IQR 4.0-6.0 vs 8, IQR 8.0-10.0,  $p<0.001$ ) along with confidence levels (2, IQR (2.0-3.0) vs 4, IQR (4.0-5.0),  $p<0.001$ ) after finish class.

**Discussion and Conclusions:** According to limit time and the number of patients, every student could not have a chance to fulfill SA role. However, after finish SAMS, knowledge and confidence levels between SA and observers were not different. The further interest issue is studying about knowledge and confidence levels between 2 groups (students who had chance to perform tracheostomy by themselves and observers), while medical ethic is the most important thing to concern.

**Take-home Messages:** The surgeon's assistant role does not affect medical students' knowledge and confidence levels in surgical airway management session.

## #8GG Posters - Surgery Education

### 8GG15 (1239)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Practical Application of 3-dimensional Printing Tools in Surgical Training Courses in the Metropolitan Hospital in mid-Taiwan

#### AUTHOR(S):

- Cheng-hsi Liao, Taichung Armed Forces General Hospital/National Defense Medical Center, Taipei, Taiwan (Presenter)
- Chin-Hu Lai, Taichung Armed Forces General Hospital/National Defense Medical Center, Taipei, Taiwan
- Chia-Wen Kuo, Taichung Armed Forces General Hospital/National Defense Medical Center, Taipei, Taiwan
- Deng-Ho Yang, Taichung Armed Forces General Hospital/National Defense Medical Center, Taipei, Taiwan
- Jia-En Chen, Department of Biomedical Engineering, National Defense Medical Center and Tri-Service General Hospital, Taiwan
- Chih-Hung Wang, Taichung Armed Forces General Hospital/National Defense Medical Center, Taipei, Taiwan

#### ABSTRACT

**Background:** For the past 10 years, 3D-printing technology has become a new trend to clinical teachers. Nowadays, we catch up with the trend to develop the 3D-printing skills and cooperate with the medical 3D printing center to design practical tools applying in surgical courses, which can advance our clinical skills.

**Summary of Work:** We've the IPE team, using the 3D tools after designing what clinical need. We demonstrate simulation scenarios in surgical training courses (Ex. Urological endoscope procedure), and do more practices to teach the green-handed residents, and new-coming staff, not directly on real patients.

**Summary of Results:** Since 2017 Dec, we cooperated with the 3D medical center to create our own 3D-printing tools, and we hold conferences, workshops and master speeches to teach our members how to apply these techniques until now. Then our IPE members can design their own 3D tools in teaching students and residents. Routinely we hold meetings bi-monthly and perform clinical scenarios by using these tools applying in surgical training courses, such as the urologist's endoscope procedure.

**Discussion and Conclusions:** 3D-printing technology is complicated, but not hard to learn. Fortunately, hospital superintendent supports the plan and offers us financial help. Therefore, we make our IPE team how to design a practical tools, and then apply in surgical training courses. In hospital, the patient safety is always the first priority, so we don't practice immature skills. Routinely we'll trace the teaching and learning effects bimonthly. Rapid changes in health care systems for decades. We've developed our own 3D-printing skills and cooperate with 3D medical center, to let our IPE members design suitable and practical teaching tools, to shorten the surgical learning curve of green-handed trainees.

**Take-home Messages:** 1. Cooperate with 3D medical center to design about what surgical need to make sure the 3D tools are suitable and practical. 2. Teach the IPE members to use the 3D teaching tools, applying in surgical procedures, then routinely follow the learning effects bi-monthly. 3. Perform simulation scenarios case-by-case with IPE team members to teach new-coming staff by using those 3D tools. 4. Let hospital managers know how we use these tools, keep supporting the plans, and give us enough financial help.



## #8HH Posters - eLearning

### 8HH01 (1807)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### “Kahoot!” and online group chat boards facilitated the interpretation skills of chest radiograph in medical students

#### AUTHOR(S):

- Rungnapa Pengprakhon, Buriram Medical Education Center, Thailand (Presenter)
- Narin Chindavech, Buriram Medical Education Center, Thailand
- Surasak Aumkaew, Buriram Medical Education Center, Thailand
- Yada Siriphannon, Buriram Medical Education Center, Thailand
- Thanatpong Thienwuttiwong, Buriram Medical Education Center, Thailand
- Detdanai Wannapong, Buriram Medical Education Center, Thailand

#### ABSTRACT

**Background:** The medical students in clinical year are usually familiar with normal finding in plain chest radiograph. However, description of abnormal finding and interpretation are difficult and need more frequent practice to develop long term skill. Transform teaching and quiz of chest radiograph to Kahoot game and interactive feedback by using real patient chest X-ray via online group chat boards may enhance medical student engagement and improve this skill.

**Summary of Work:** In the teaching period of essential chest plain radiographs; sixty five of 4th and 5th year students during medicine rotation were applied one of two learning modules; class room, homework with formative feedback (FF) and using Kahoot interactive feedback (KIF). Formative feedback model, each student was assigned for describing twenty of chest X-ray with interpretation from their real patient via online chat board and the teacher corrected the wrong answers. The KIF model, the teacher converted the same interesting CXRs to quiz and stimulated students to participate to answer with the game and finally concluded and summarized the answers.

**Summary of Results:** The KIF model had significantly higher scores than FF model ( $16.5 \pm 4.1$  vs  $14.2 \pm 1.7$ ,  $p=0.01$ ) comparable similarly resulted in both 4th and 5th year medical students ( $14.3 \pm 5.8$  vs  $12.5 \pm 4.6$ ,  $p=0.52$  and  $18.4 \pm 2.0$  vs  $16.5 \pm 3.7$ ,  $p=0.01$ , respectively). The medical students also reported positive feedback for exciting game, quick reply, teamwork discussion and remembering accurately in the KIF model.

**Discussion and Conclusions:** Overall the interactive feedback with playing Kahoot to describe chest radiograph finding from real patients enhanced student engagement for inquiry-learning owing to solve problems. Moreover, the KIF created an exciting, enthusiastic learning atmosphere between themselves and teacher leading to long term skill. Conclusion: The kahoot quiz and online chat boards application enhance self-challenges and learning experience and can create learning atmosphere of peer groups and each students into depth learning in clinical context for x-ray describe finding.

**Take-home Messages:** Interaction between students and teachers via “Kahoot!” and online group chat board can improve chest x-ray describe finding and interpretation skill.

## #8HH Posters - eLearning

### 8HH02 (55)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Role of social media groups in Foundation Doctors

#### AUTHOR(S):

- Yen-Jei Chen, Manchester University NHS Foundation Trust (MFT), UK (Presenter)
- Ray Keelan, Manchester University NHS Foundation Trust, UK

#### ABSTRACT

**Background:** The number of people using social media are increasing. Social media use by doctors is fraught with ethical difficulties when due care is not taken and GMC guidance on social media use was issued in 2013. Furthermore, the use of social media groups at work can mean that it is increasingly difficult to switch off from work. However, social media is also a new platform for education and social networking. We aim to identify how foundation doctors use social media groups, whether such groups are beneficial and their perceived impact on work-life balance.

**Summary of Work:** Foundation year (FY) doctors were asked to complete a survey when attending regional teaching. All surveys were anonymous. 23 FY1 and 20 FY2 doctors were surveyed.

**Summary of Results:** All 43 doctors use social media group with work colleagues, 16 exclusively for work. 88% find being part of the group beneficial in managing work. The main uses for the groups are managing rota, social networking, followed by clinical advice. The main members of the groups are fellow FY doctors. 70% had been asked work-related question that requires action outside of working hours. 25.6% state these groups make switching off from work more difficult. 72% feel using social media group for work is generally positive.

**Discussion and Conclusions:** While there are many guidelines on how doctors should use social media, very little is known about junior doctors' opinion of the new and growing media. Majority of those surveyed use social media groups for managing rota, social networking and clinical advice with few using it for education, this may be due to no mandatory exam for FY doctors. It is interesting to note that despite most doctors having been asked work-related questions outside of work, most doctors view social media groups positively.

**Take-home Messages:** The majority of the FY doctors surveyed use social media groups for multiple purposes for work. The view of social media is predominately positive despite all the potential pitfalls relating to social media use in health care.

## #8HH Posters - eLearning

### 8HH03 (1700)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Optimizing the potential of social media in undergraduate curriculum: student perspective in Thailand

#### AUTHOR(S):

- Phunlerd Piyaraj, Phramongkutklao College of Medicine, Thailand (Presenter)
- Kawin Wongthamarin, Phramongkutklao College of Medicine, Thailand

#### ABSTRACT

**Background:** Social media is everywhere in the society and its usage is rapidly expanding, especially among medical students. Social media can integrate into the curriculum and provide educator with tools to share information, to discuss learning content, to assign working group, and to assess student feedback. However, little is known about how medical students use social media and the way it appropriate for their learning preferences.

**Summary of Work:** A cross sectional was performed during January 2018. A standardized questionnaire was developed to explore the demographics, academic performance and attitude toward the potential role of social media in medical education e.g. usage of social media in daily life and what type of social media is suitable to their learning. Data were analyzed using STATA version 14.

**Summary of Results:** Total of 182 students were participated. Average time spent on social media is 5.3 hours per day. The most common daily use of social media are Line (50%) and Facebook (25%). 73% of the students choose Line as the most appropriate way for communication between students and educator. Facebook (33%) and YouTube (30%) are most used as social media for self-study. The students perspective explains the advantages of Facebook in the group studies as it is easy to send files and each post can be divided into clear conversation topics. While Line is easy to chat and respond quickly.

**Discussion and Conclusions:** The results show that students choose different kind of social media for different purposes and each social media has different advantages. To apply, Line is suitable for share information, to assign working group, and answer the student questions. While Facebook appropriate for files transfer and multiple topics conversations at the same time. Understanding medical students use of and attitudes toward social media reveals a need, and provides a basis, for improve educational programs.

**Take-home Messages:** Medical educational planners should take into account this modern tool in the curriculum development, to get access to their students; given the facilities of sharing information and stay connected. Moreover, students can express doubts and tutors can provide support through discussion or sharing information.

## #8HH Posters - eLearning

### 8HHo4 (241)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Social Media Addiction in Medical Students at Khonkaen University, Thailand

#### AUTHOR(S):

- Intira Anantpinijwatna, Mahasarakham Hospital, Thailand (Presenter)
- Bunyanut Phanurak, Mahasarakham Hospital, Thailand
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- Kotchakorn Chomchoei, Mahasarakham Hospital, Thailand
- Chayanit Poonsawaspong, Mahasarakham Hospital, Thailand

#### ABSTRACT

**Background:** Nowadays, social media plays an important role in our daily life and its usage tends to be dramatically rising. The inappropriate amount of the usage may lead to social media addiction. The aim of this study was to survey and determine social media addiction and its relation to academic achievement among medical students.

**Summary of Work:** This study was a cross-sectional analytic study in the 1st to 6th year medical students at Khon Kaen University. An online questionnaire was sent. The questionnaire includes demographic characteristics, social media usage behaviors, and the Social Media Addiction Test (SMAT).

**Summary of Results:** The number of responded students is 209; in which there are 47 addicted, 100 obsessed, and 62 non-addicted. The addicts have at least 5 social media accounts. The top three favorite applications are Facebook, Instagram, and YouTube. The addicts spent 3-5 hours per day on their smartphones. The purposes of using are following friend activities, watching movies and listening to music.

**Discussion and Conclusions:** More than half of the studied group has been categorized as social media addict and social media obsession.

**Take-home Messages:** The faculty should closely monitor the social media addicted and obsessed medical students. The faculty should prepare attractive alternative activities to turn them away from their unfavorable behavior.

## #8HH Posters - eLearning

### 8HH05 (2667)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Feasibility and efficacy of using mobile communication application to enhance clinical skill training

#### AUTHOR(S):

- Li-Ying Huang, Fu Jen Catholic University Hospital, Taiwan (Presenter)
- Po-Jui Yu, Fu Jen Catholic University Hospital, Taiwan
- Kun-Long Hung, Fu Jen Catholic University Hospital, Taiwan
- Chun-Wei Chang, Fu Jen Catholic University Hospital, Taiwan
- Bi-Hua Cheng, Fu Jen Catholic University Hospital, Taiwan
- Juliana Tze-Wah Kao, Fu Jen Catholic University Hospital, Taiwan

#### ABSTRACT

**Background:** The emergence of mobile communication applications have allowed people to send text messages, photos or videos conveniently. With proper design, it may be used to enhance clinical skill training. To explore the feasibility and efficacy of applying mobile communication application in clinical skill training, we have conducted a pilot study.

**Summary of Work:** In 2018 October, a postural drainage and chest percussion skill training course was held at the Fu Jen Catholic University Hospital OSCE center, where a nursing Anne simulator and smartphone holders were available. The Line mobile application was used for post-course communication. Professional clinical skills and smartphone video recording skills were illustrated by teachers and then practiced by students. After the class, students were asked to send back their self practice videos through Line application. And the teachers used checklist and direct observation of procedural skills (DOPS) method to evaluate their skills in the video and provide feedback. Furthermore, students were able to seek support for an extended period through the application.

**Summary of Results:** Our study found that using mobile communication applications and video recording to assist clinical skill training was effective and feasible. After training, students learned proper angle of framing and were able to receive post-course coaching through the communication application. Their postural drainage and chest percussion skills showed significant improvements (clinical skill average scores: pre-test 37.5 / post-test 100) after the application-assisted training course. More than 90% of the students were highly satisfied with this program.

**Discussion and Conclusions:** Self practice video recording and interactive post-course discussion through mobile communication applications provide an effective way for the students to extend their learning after class. This method may be applied to more procedural skill training in the future.

**Take-home Messages:** Using mobile communication applications, video recording and interactive feedback to enhance clinical skill training is effective and feasible.



## #8HH Posters - eLearning

### 8HHo6 (1677)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of an app-based learning tool for medical students to access local clinical skills resources

#### AUTHOR(S):

- Niki Newman, University of Otago, Christchurch, New Zealand (Presenter)
- George Sim, CDHB, New Zealand

#### ABSTRACT

**Background:** Instant access to local clinical skills resources via mobile technology makes the most of learning opportunities using readily available devices. Although students can easily access medical information from global sources, access to authorised information on how to safely perform procedures in the local clinical environment is not readily available.

**Summary of Work:** A final year medical student with self-taught knowledge on how to code for iOS mobile devices chose to develop a smartphone based application (app) as a project whilst on a four week 'selective' placement. The aim was to develop a reliable, accessible resource for medical students while on clinical placements, based on the clinical skills resources currently available as part of the curriculum via the eLearning platform MedMoodle. It includes checklists on how to perform procedures safely and effectively with information relevant to daily practice in the local teaching hospital and community. The project was implemented as part of the Clinical Skills Module as a point-of-care learning tool. Following the success of the app on iOS devices, an android version was then developed. Students in years 3-6 of their medical training downloaded the app for free.

**Summary of Results:** In its first year the app has been downloaded 193 times. Initially there were some challenges with lack of awareness of the app being available, difficulty downloading and lack of an android version. Ongoing marketing to students was required throughout the year with corresponding spikes in downloads. Students completed a questionnaire at the end of the 2018 academic year with positive responses including 'very condensed and easy to follow', 'handy refresher', 'quick revision before I do any procedure' and 'easy to access and a reliable source of information'. There were requests to include more procedures, photos and videos.

**Discussion and Conclusions:** A phone application developed by students for students provides immediately accessible, locally relevant, point-of-care information. It has been widely used and well received by students and their constructive feedback will inform further app development and availability.

**Take-home Messages:** A point-of-care clinical skills app featuring local practices and procedures can be used as an effective adjunct to medical students' learning in the local clinical environment.

## #8HH Posters - eLearning

### 8HH07 (2541)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Using smartphones during inpatient visits, is it unprofessional? The patients' and their relatives perceptions

#### AUTHOR(S):

- Chirabat Techato, MEC Songkhla Hospital, Thailand (Presenter)
- Kalyanee Asanasak, MEC Songkhla Hospital, Thailand

#### ABSTRACT

**Background:** Nowadays, smartphones have become an inseparable part of our daily lives. It has no exception for physicians to be one of the professionals that get advantages from smartphones. In the situation that physicians using smartphones during their inpatient visits would create different perceptions from patients and their relatives. The purpose of this study is to explore several aspects of patients and their relatives' opinions on the use of smartphones by doctors and medical students during their inpatient visits.

**Summary of Work:** The cross-sectional descriptive study was performed by selecting the participants which are the patients and their relatives in Songkhla Hospital's wards. The participants are literate in Thai. They were asked to complete questionnaires before and after receiving the medical treatments. 136 participants from various departments had completed the questionnaire. The characteristics of all participants will be shown. The statistic used in the study is McNemar's test and paired T-Test.

**Summary of Results:** The study revealed that most patients and their relatives perceived that doctors and medical students used smartphones for opening documents, searching the internet, e-books for medical treatments during inpatient visits. Using smartphones during inpatient visits do not impact the doctors and medical students' reliability on medical treatments. Nevertheless, doctors' average satisfactory score decreases significantly toward smartphone use during inpatient visits in the aspect of providing disease and symptoms explanation (P-value 0.02), forecast and clear direction of treatments (P-value 0.02). In addition, the patients and their relatives perceived that using smartphone could result in untimely treatments and less attention to the patients.

**Discussion and Conclusions:** The perception of the patients and their relations toward smartphone usage during ward during is good attitudes. But the acceptance from the medical students is more than the attending doctors. It might due to perceived that using smartphone could result in untimely treatments and less attention to the patients.

**Take-home Messages:** Using smartphones is becoming a routine behavior in our daily life but during ward-round may result in unprofessional behavior and results in low quality, low standard in medical service.

## #8HH Posters - eLearning

### 8HHo8 (1652)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### How smartphone overuse is affecting our clinical year medical students

#### AUTHOR(S):

- Napattamon Manorat, Roi-Et Hospital Medical Centre, Thailand (Presenter)
- Chanthit Phunlap, Roi-Et Hospital Medical Centre, Thailand

#### ABSTRACT

**Background:** Nowadays, smartphones play an important role in the lives of people. This is especially true for medical students as they use this technology for learning, communicating and organizing. Although this technology has its benefits, the extensive usage of smartphones leads to various health dysfunctions, including suffering from musculoskeletal pain, fatigue, and emotional imbalance. One such form of the latter is nomophobia, the fear of being out of mobile phone contact. This study was designed to assess the smartphone usage patterns of clinical years medical students and the effect this usage has upon their physical and mental health.

**Summary of Work:** Using a cross-sectional design, self-report questionnaires were distributed to all medical students in years 4-6 at Roi Et Hospital Medical Center. The surveys consisted of 20 items from the Nomophobia Questionnaire (NMP-Q) that clustered in four factors. In addition, we inquired about the characteristic of devices used and the related symptoms, such as eye strain, musculoskeletal discomfort, fatigue and headache after prolong use, and experiencing phantom vibrations. Afterwards, the results were evaluated by using descriptive statistics.

**Summary of Results:** Response rate was 80.72% (67/83). Seventy percent of respondents spend more than 4 hours per day on their smartphones. 76.20% slept next to their smartphones. The most common purposes for using their smartphone were for social media (95.52%), communication (86.57%), and education (80.60%). Most of the students (98.51%) were classified as having some form of nomophobia (mild - 22.38%, moderate - 62.69%, severe - 13.44%). 72% of users reported experiencing occasional phantom vibrations. After prolonged, respondents often had eye strain (56.71%), headaches and fatigue (50.74%). and musculoskeletal discomforts (56.71%).

**Discussion and Conclusions:** Smartphones have become an integral part of our medical students' lives; they spend a great deal of time on their smartphones day and night. However, addiction to smartphones carries both physical and psychological problems. The results may help device users consider trying to balance their screen time with other aspects of life to live more happily with smartphones.

**Take-home Messages:** To reduce the harmful effects of overuse of smartphones, one should always remember that a smartphone is a device, not a master, and it should never be used too frequently.

## #8HH Posters - eLearning

### 8HH09 (1330)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Preparing for Distance Learning: Designing an Online Orientation for Nurses

#### AUTHOR(S):

- **Machiko Saeki Yagi, Jichi Medical University, Japan (Presenter)**
- Reiko Murakami, Jichi Medical University, Japan
- Mitsue Suzuki, Jichi Medical University, Japan
- Shigeki Tsuzuku, Kumamoto University, Japan
- Hiroshi Nakano, Kumamoto University, Japan
- Katsuaki Suzuki, Kumamoto University, Japan

#### ABSTRACT

**Background:** Continuous learning is critical for improvement of the quality of patients' care. However, the shortage of nurses is a substantial problem, so nurses cannot leave their workplace to improve their knowledge and skills. Nurses have the chance to use distance learning systems to learn whenever and wherever they desire. However, some papers have reported that nurses had difficulties with basic skills, such as attaching documents and engaging in online discussion for collaborative learning, for distance learning.

**Summary of Work:** Two types of online orientation were developed for this study prior to a main course opening to train critical thinking, physical assessment, and patient safety, etc to continuous learning. Version A, with 60 nurse participants, was short and included a test, search engines usage, attachments training, and online threads for peer discussion. Version B, with 123 nurse participants, additionally included mutual evaluations and chat rooms for questions. The participants' login frequency to the online orientation and the main course completion rate were analyzed to determine the effects of the online orientation.

**Summary of Results:** The demographic data between A and B were not significantly different; however, the completion rate of the main course was increased from A to B (77% to 93%). The login frequency to the online orientation in noncompleters in both versions was lower than that of the completers ( $p=.00$ ). Additionally, significant differences were found in the work experience and qualified Advanced Practice Nurses between completers and noncompleters ( $p=.02$ ,  $p=.02$ ). The login frequency of online threads increased from A to B ( $p=.00$ ). Additionally, difficulties in the main course with online discussion and mutual evaluations decreased in participants of version B.

**Discussion and Conclusions:** This study demonstrates that appropriate online orientations, including online threads, improve collaborative learning online and help with online learning success. Additionally, the results suggest that online course faculties need to monitor the login frequency in the orientation and check learners' work experience and qualifications to prevent drop out.

**Take-home Messages:** Appropriate online orientation helped nurses to complete the main course. In particular, online threads helped them learn collaboratively.

## #8HH Posters - eLearning

### 8HH10 (3338)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Developing Peer-to-Peer Public Health Online Courses

#### AUTHOR(S):

- Katja Čič, International Federation of Medical Students Associations (Presenter)
- Omnia El Omrani, International Federation of Medical Students Associations
- Anna Herzeg, International Federation of Medical Students Associations

#### ABSTRACT

**Background:** The Public Health Leadership Training (PHLT) is a standardized workshop for all healthcare students worldwide, imagined as a longitudinal concept of training IFMSA members. Since 2016, 25 PHLT workshops were conducted in more than 18 countries worldwide. There's an urgent need for qualified trainers to ensure a high-quality execution of the workshop. In addition, we introduced the Activity Management Online Course (AMOC) to guarantee the quality of our activities in the long term and measure their impact.

**Summary of Work:** Two IFMSA Online courses were developed; PHLT-T and Activity Management Online Course (AMOC). The PHLT-T equips trainers with in-depth knowledge and advanced skills to facilitate PHLT's 3 major pillars - Leadership, Activity Management and Public Health. On the other hand, the AMOC particularly trains members in basic and advanced Activity Planning as well as essential methods of evaluation and impact tracking. Both online courses end with an exam to thoroughly assess the knowledge and understanding of participants of the materials learned.

**Summary of Results:** 3 PHLT-T and 1 AMOC courses have been successfully conducted. Through standardized assessments, we were able to improve the methods and materials used. We also sought to sustain the continuity and quality of the courses in the upcoming terms. SCOPH currently has 22 certified PHLT Trainers. As for the AMOC Round 1, SCOPH now has 12 AMOC Trainees and 14 trainees registered for Round 2.

**Discussion and Conclusions:** Through the PHLT-T, we can now provide comprehensive training that creates competent trainers able to give our students all the basics to comfortably and confidently act within the field of Public Health. We are also capable of establishing sustainable activities and tracking long-term impact through the transfer of knowledge and skills in the form of a well-implemented handover. This was predominantly accomplished by the AMOC.

**Take-home Messages:** The common goal of both courses is to ultimately empower future public health leaders to understand the intricate workings of activity management, create powerful activities and track their impact, as well as lead their communities towards better health.



## #8HH Posters - eLearning

### 8HH11 (1030)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

## The Effectiveness of Technology-Enhanced Learning on Electrocardiography Teaching to Undergraduate Medical Students

### AUTHOR(S):

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- Hsin-Hui Chen, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Wei-Shiang Lin, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Cheng-Yi Chen, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Chin-Sheng Lin, Tri-Service General Hospital, National Defense Medical Center, Taiwan

### ABSTRACT

**Background:** Although electrocardiography (ECG) plays a critical role in biomedicine, it remains a great challenge for undergraduate medical students in real world practice. Technology-enhanced learning (TEL) provides deliberate learning for medical students to promote patient safety and medical quality. This study evaluates effectiveness of TEL on the recognition of the presentation of ECG in patients with acute myocardial infarction (AMI) and explores the association between students exercise behaviors and the ECG recognition capacities.

**Summary of Work:** We developed a web-based system involving 97 selected ECGs. There are 119 fourth-year medical students recruited in the AMI ECG recognition class. The teaching process as follows: (1) a 20-minute video teaching, (2) a web-based randomly replaced ECGs exercise, (3) an online reflection and review mechanism, (4) online pre-test, (5) in-class pre-test, (6) a 30-minute classroom talk, (7) final test.

**Summary of Results:** The students were divided into 4 categories by user behavior, which were shown as follows: (1) without exercise ( $n = 13$ ), (2) less exercise ( $n = 17$ ), (3) exercise with well preparation ( $n = 56$ ), (4) extensive exercise without well preparation ( $n = 33$ ). There were significant differences of the in-class pretest score among these 4 groups ( $57.69 \pm 36.32$ ,  $65.29 \pm 35.38$ ,  $79.82 \pm 11.04$ , and  $73.64 \pm 19.66$ , respectively;  $p = 0.004$ ). After formal classroom teaching, their final test score improved to  $72.31 \pm 34.44$ ,  $71.18 \pm 36.21$ ,  $88.21 \pm 11.62$ , and  $85.76 \pm 11.19$  ( $p = 0.004$ ), respectively. Further analysis revealed the critical role of exercising experiences on the in-class test scores. Students who had the exercise experience more than 10 times got significantly higher scores than those who didn't. ( $87.25 \pm 11.55$  vs.  $70.71 \pm 35.69$ ,  $p < 0.001$ ).

**Discussion and Conclusions:** This web-based exercise help students recognize the ECG presentations in real patients with AMI. We considered that traditional classroom teaching helps students to learn abnormal features from physiological mechanism, and the real case exercise helps students to be familiar with interpretation process. Based on this successful experience, further larger and wider database will be applied in following courses to confirm the beneficial effects.

**Take-home Messages:** Our study demonstrated the promising effects of the online-based exercise on the recognition of AMI ECG presentations, which could make up for the inadequacies of traditional classroom teaching.

## #8HH Posters - eLearning

### 8HH12 (226)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### An analytical model to assess the feasibility of integrating augmented reality applications into medical education curricula: a pilot study

#### AUTHOR(S):

- Derrick Cheng, The Warren Alpert Medical School of Brown University, USA (Presenter)
- Kevin Tang, The Warren Alpert Medical School of Brown University, USA
- Paul Greenberg, Providence VA Medical Center, The Warren Alpert Medical School of Brown University, USA

#### ABSTRACT

**Background:** Augmented reality (AR) has the potential to transform learning in medical education, and hundreds of augmented reality applications (ARAs) have already been developed for medical training within the last several decades. While prior literature has described the role of technology-enhanced simulation in medicine, there are no conceptual frameworks or standardized methods for evaluating ARA potential in medical education. In this study, we propose and pilot test an analytical model to assess the feasibility of ARA implementation into current educational curricula.

**Summary of Work:** We developed an analytical model based on a systematic literature review and Cook et al.'s (2011) meta-analysis of simulation-based education for health professionals. Our model utilized four assessment criteria: quality, scored by study type, presence of bias, and data consistency; content, the relevance and applicability of ARA content as evaluated by experts in the field; outcome, scored by statistically significant improvements in learner performance; and feasibility, evaluated by faculty/trainee interest and costs of implementation. We used this model to evaluate three well-described ARAs: ProMIS (Haptica, Dublin, Ireland), AR MagicBook (Istanbul, Turkey; various), and mARble (Hanover, Germany).

**Summary of Results:** The ProMIS laparoscopic simulator achieved moderate quality, high content, limited outcome, and low feasibility scores. The AR Anatomy MagicBook demonstrated high quality, high content, good outcome, and good feasibility scores. The mARble Classroom ARA achieved low quality, average content, poor outcome, and high feasibility scores.

**Discussion and Conclusions:** This analytical model can be used to assess the feasibility of ARA integration into medical educational curricula. Of the three ARAs evaluated, the AR Anatomy MagicBook achieved the highest overall score, suggesting this application is the most qualified for implementation. Further work assessing ARAs in educational settings is needed to determine this model's accuracy in predicting ARA success.

**Take-home Messages:** Augmented Reality is a rapidly growing field within medical education. However, there are no standardized methods for ARA assessment. Here, we propose an analytical model for the assessment of ARAs prior to their use.

## #8HH Posters - eLearning

### 8HH13 (1914)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of an Educational Video Assessment Scale

#### AUTHOR(S):

- Lina Shehadeh, University of Miami, Miller School of Medicine, USA (Presenter)
- Sean Schooley, University of Colorado School of Medicine, Anschutz Medical Campus, USA
- Sean Tackett, Johns Hopkins Bayview Medical Center, USA

#### ABSTRACT

**Background:** Learning resources in medical education are numerous, and videos are often used. No standardized measures exist for estimating the education quality of videos, and popularity is a poor surrogate. Therefore, we developed a scale for medical educators and content creators to evaluate medical education video quality.

**Summary of Work:** Based on literature surrounding source reliability, multimedia and curriculum development principles, and studies of educational videos and learning, we created a scale with 25 domains. The scale was then piloted by two raters using 15 “cardiovascular physiology” videos from YouTube. Descriptive analyses and tests for internal consistency and inter-rater reliability were performed.

**Summary of Results:** Each video was rated in an average of 20 minutes. The average “technical quality” section scored 7.9/10, while “educational design” and “reliability” sections together scored 3.4/12. Only 13% of videos clearly identified informational sources, 7% clearly identified the last content update, and 0% acknowledged areas of uncertainty surrounding the topic. Also, no videos provided opportunities for self-assessment. Cronbach’s Alpha of (0.939, CI (0.690, 1.000)) for the scale total indicated the internal consistency was high. ICC(2,1) of (0.7084, CI (0.6247, 0.7700)) for the scale total indicated the intra-rater reliability was good.

**Discussion and Conclusions:** Results from this pilot seem to indicate that producers of videos emphasize technical quality of videos over educational design, reliability, or assessment. This is concerning because studies have shown that video consumers cannot distinguish videos with useful content from other videos, and suggest that content and sources of educational videos deserve greater scrutiny. Likewise, assessment drives learning, but opportunities for assessment are lacking. Finally, pilot results from our instrument development are promising and warrant further efforts to generate validity evidence for its use.

**Take-home Messages:** The quality of medical education videos can be assessed in a reasonable and effective manner. Using a scale such as ours is a tool that can be used by instructors and content creators to utilize and produce better quality products that are more effective for students.

## #8HH Posters - eLearning

### 8HH14 (1714)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### Innovative Strategies for Clinical Microscopy Instruction: Virtual versus Light Microscopy

#### AUTHOR(S):

- M. Jane McDaniel, Yale School of Medicine Physician Assistant Online Program, USA (Presenter)
- Greg Russell, Wake Forest School of Medicine Department of Biostatistical Sciences, USA
- Sonia Crandall, Wake Forest School of Medicine Department of Physician Assistant Studies, USA

#### ABSTRACT

**Background:** This study compared the effectiveness of clinical microscopy instruction for physician assistant (PA) students using virtual microscopy versus hands-on light microscopy.

**Summary of Work:** A prospective, randomized crossover design study was conducted with a convenience sample of 67 first year PA students randomized to two groups. One group used light-microscopes to find microscopic structures, while the second group used instructor-directed video streaming of microscopic elements. At mid-point of the study, the two groups switched instructional strategies. Learning outcomes were assessed via post-test following each section of the study, with comparison of final practical exam results to previous cohorts. Attitudes about the two educational strategies were assessed by a post-course Likert-scale questionnaire.

**Summary of Results:** Analysis of the first post-test demonstrated students in the virtual microscopy group had significantly better learning outcomes than the light microscopy group ( $p=0.004$ ; Cohen's  $d = 0.74$ ). Analysis of the post-test after crossover did not show differences between the two groups ( $p=0.48$ ). Between the two post-tests, students first assigned to the light microscopy group scored a 6.6 mean point increase ( $\pm 10.4$  SD;  $p=0.0011$ ) while students first assigned to the virtual microscopy group scored a 1.3 mean point increase ( $\pm 7.1$  SD;  $p=0.29$ ). The light microscopy group improved more than the virtual microscopy group ( $p=0.019$ ). Analysis of practical exam data revealed higher scores for the study group compared to the previous five cohorts of first year students ( $p<0.0001$ ; Cohen's  $d = 0.66$ ). Assessment of student attitudes at the end of the study showed that 92% of students preferred virtual microscopy instruction to traditional light microscopy instruction.

**Discussion and Conclusions:** Virtual microscopy is an effective educational strategy for teaching clinical microscopy and was preferred by a single cohort of PA students over conventional instruction. The single cohort design is a notable limitation to generalizability. Implementation of virtual microscopy instruction may reduce formal instruction in the use of light microscopy, thereby challenging the use of light microscopes in clinical practice.

**Take-home Messages:** Virtual microscopy is an effective educational strategy, learning outcomes appear to be significantly higher using this method of clinical microscopy, and students prefer this method of learning.

## #8HH Posters - eLearning

### 8HH15 (1236)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### Evaluating the Effects of Distance Learning on the Physician Assistant National Certifying Examination Pass Rate

#### AUTHOR(S):

- Jennifer Forbes, Idaho State University, USA (Presenter)
- Anntara Smith, Idaho State University, USA
- Marvin Sparrell, Idaho State University, USA
- Jared Papa, Idaho State University, USA

#### ABSTRACT

**Background:** Incorporating information technology in the classroom and utilizing distance learning in the education of physician assistants (PA) can allow for increased student enrollment with minor additions to faculty and staff. Distance learning can also be used to address the health care workforce shortage in underserved areas in the USA when satellite campuses are opened in underserved areas. This allows for the connection of learners, instructors and resources that are not occupying the same physical space. There is increasing interest from PA programs to offer distance learning at satellite campuses in addition to having a main on-campus program. The number of PA programs operating satellite campuses has doubled over the last decade. While there are many benefits to offering distance learning, there has not been any published research evaluating the effect this variable may have on the pass rate of the Physician Assistant National Certifying Examination (PANCE). The PANCE is the national board exam that PA program graduates must complete and pass before they can enter clinical practice in the USA.

**Summary of Work:** Information from the Physician Assistant Education Association (PAEA) program directory and the PAEA Research Program Report #33 were utilized to obtain the name and number of PA programs that offer distance learning in their curriculum. The National Commission on Certification of Physician Assistants (NCCPA) PANCE Exam Performance Summary Report was reviewed for each PA program offering distance learning. The five-year first-time taker mean pass rate for all PA programs offering distance learning was calculated and compared to the five-year national first-time taker average for all PA programs in the USA over the same five year period.

**Summary of Results:** The mean of the five-year first-time taker pass rate for PA programs offering distance learning was 97%. The five-year national first-time taker average was 96%.

**Discussion and Conclusions:** Students who attend a PA program that utilizes distance learning have the same or greater chance of passing the PANCE as students who attend a PA program that does not offer distance learning.

**Take-home Messages:** PA programs that utilize distance learning prepare students to pass the PANCE as effectively as PA programs that do not offer distance learning.



## #8HH Posters - eLearning

### 8HH16 (1236)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Emotional goals in e-learning: possible or impossible

#### AUTHOR(S):

- **Nikoo Yamani, Isfahan University of Medical Sciences, Iran (Presenter)**
- Sara Heydari, Isfahan University of Medical Sciences, Iran
- Peyman Adibi, Isfahan University of Medical Sciences, Iran
- Athar Omid, Isfahan University of Medical Sciences, Iran

#### ABSTRACT

**Background:** Today, medical education around the world is mostly focused on cognitive and psycho-motor goals. But a professional physician, should also be able to communicate well with patients and understand their feelings. Currently, e-learning is widely used to train medical students. It is very important to pay attention to the emotional goals of e-learning in which there is no teacher-student face-to-face contact. The purpose of this study was to develop strategies for teaching emotional goals in e-learning from the perspective of clinical professors, e-learning and medical education experts.

**Summary of Work:** This qualitative study was conducted in 2018. Clinical faculty of medicine, medical education and e-learning specialists from Universities of Medical Science in Iran participated in the study. The sampling was purposeful. Data was collected using 18 semi-structured in-depth individual interviews and were analyzed through conventional content analysis. Validity and accuracy of data were provided on the basis of Guba & Lincoln criteria.

**Summary of Results:** Three categories "Content" (design, media), "course management" (learning environment, interaction, blended learning), and "learner" (motivation, readiness, individual characteristics) were extracted.

**Discussion and Conclusions:** Participants believed that content should be designed creatively and engagingly. In the course management category, the blending was the most frequent code. Various studies have also reported the effectiveness of this method compared to completely electronic or completely face-to-face courses. Obviously, the interaction of students together or with the teacher can facilitate the achievement of emotional goals. Also, emphasizing the learner, real world examples can motivate them; creating feelings of satisfaction and trust, and giving appropriate feedback. Preparing e-learners for e-learning is important. Paying attention to individual characteristics and personalizing learning is another suitable solution.

Considering emotional goals in e-learning is important and its keys are using appropriate media for presenting content, blending learning, individualizing learning, and designing interactive learning environments.

**Take-home Messages:** We can teach emotional goals in e-learning by blending learning, individualizing learning, and designing interactive content.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

### 8IIo1 (2212)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Informing Entrustment Decisions: Designing Assessment Reports For Competence Committees Using Messick's Validity Framework

#### AUTHOR(S):

- Ryan Luther, University of Toronto, Canada (Presenter)
- Rodrigo Cavalcanti, University of Toronto, Canada
- Sylvia Heeneman, Maastricht University, Netherlands

#### ABSTRACT

**Background:** Assessment models for training doctors are transitioning toward competency-based medical education (CBME). In the Canadian context, entrustable professional activities (EPAs) were created to operationalize CanMEDS roles. EPAs are assessed through instruments which produce both quantitative and qualitative data. Entrustment decisions in CBME require group decision making by clinical competence committees (CCCs). However, the volume of raw assessment data may be too great for committees to review in its entirety for each entrustment decision. To facilitate interpretation, data must be collated, analyzed, and displayed in reports that facilitate decision-making. This study seeks to understand how assessment data can be reported to support CCCs in making valid entrustment decisions.

**Summary of Work:** Using a design-based research methodology, template assessment reports were developed using Messick's validity framework. Mock reports were created to represent well-performing, borderline, and poorly-performing residents. Through semi-structured individual interviews, reports were presented to 10 competence committee members from 2 training programs at the University of Toronto. Interviews sought to understand how CCC members interact with reports and identify which elements are used to support valid entrustment decisions. Data were analyzed using a framework analysis, using Messick's validity framework as a guide.

**Summary of Results:** Template assessment reports designed using Messick's validity framework provide CCC members with evidence to support entrustment decisions. While analysis is ongoing, data from 2 interviews indicates that CCC members rely on contextual information to support entrustment decisions. They also ensure narrative comments are congruent with numerical scores. Detailed analyses from the complete dataset will be presented to provide insights into how CCC members interpret validity evidence and help inform design of more user-friendly and valid reports.

**Discussion and Conclusions:** Results from this study will be used to inform development of assessment reports and expand its use in other clinical training programs. Interview data will also contribute to understanding of how CCCs use validity evidence to support entrustment decisions.

**Take-home Messages:** The expanding volume of assessment data in CBME requires programs to aggregate data to support decision-making. It is important that aggregated reports provide adequate validity evidence, to optimize the quality of decisions.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

**8II02** (2582)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Using Entrustable Professional Activities (EPA) in Emergency Medicine

#### AUTHOR(S):

- Michele Gawlinski, The University of Western Australia, Australia (Presenter)
- Ian Dey, South Metropolitan Health Service Fiona Stanley Hospital, Australia
- Greg Sweetman, South Metropolitan Health Service Fiona Stanley Hospital, Australia
- Erin Furness, South Metropolitan Health Service Fiona Stanley Fremantle Hospitals Group, Australia
- Denese Playford, The University of Western Australia, Australia

#### ABSTRACT

**Background:** Entrustable Professional Activities (EPA) describe units of clinical activity. Their value as descriptors of clinical care has gained widespread commitment across a range of medical specialties. EPA have been explicitly linked to competency frameworks. However there is considerably less information on outcomes associated with EPA as a form of work-based assessment. This study outlines preliminary findings for EPA assessment of trainees in Emergency Medicine. It tracks entrustment decisions from the first to fourth post-graduate year (PGY1-4), associating EPA scores from registrars and consultants across the EPA domains originally described in 2014 as those required for day one of residency.

**Summary of Work:** The EPA form was developed in consultation with Emergency Medicine clinical staff. Twelve core EPAs were selected and five entrustment levels identified as appropriate to the EM context, as guided by the work reported in the Association of American Medical Colleges documentation. 32 matched pairs of registrar and consultant data for the same trainee were obtained over one calendar year. Individual and total EPA scores were obtained for a total of 64 assessments.

**Summary of Results:** There was a significant increase in total EPA score from PGY1 to PGY4 ( $F=11.228$ ,  $p<0.000$ ). Each EPA domain developed at different rates over time, with relatively few being scored as 'able to perform without supervision' in PGY1. Assessments by registrars and consultant entrustment decisions were positively correlated ( $r = 0.4.06$ ,  $p = 0.023$ ); there was no significant difference between their scores ( $t=0.237$ ,  $p = 0.814$ ); and descriptive comments provided useful behavioural comment tags for entrustment decisions.

**Discussion and Conclusions:** EPA scores increased with postgraduate year, with very few EPAs given total entrustment in PGY1 and some still in development by PGY3. These data provide insight into appropriate expectations at the commencement of clinical practice for Australian interns, and provide valuable training information.

**Take-home Messages:** Trainees demonstrate individual EPAs at different rates over time and relatively few EPAs were given total entrustment at day one of residency. Entrustment scores were consistent between registrar and consultant assessors, who also provided concordant behavioural tags for their decisions.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8II03 (766)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Formative Assessment and Coaching for 3 Core EPAs in an Internal Medicine Sub-Internship

#### AUTHOR(S):

- Eric Hsieh, Keck School of Medicine of USC, USA (Presenter)
- Sonia Lin, Keck School of Medicine of USC, USA
- Alan Liu, Keck School of Medicine of USC, USA
- Win May, Keck School of Medicine of USC, USA

#### ABSTRACT

**Background:** Graduate medical education (GME) programs use Entrustable Professional Activities (EPA) as a basis for competency-based assessment. Undergraduate medical education programs are beginning to use them to align with GME outcomes. Formative assessment in the EPAs and coaching can prepare learners to achieve the EPAs prior to graduation. The EPAs chosen are from the Core EPAs for entering residency. They are: 1. Gather a history and perform a physical examination (H&P) 2. Prioritize a differential diagnosis following a clinical encounter 3. Provide an oral presentation of a clinical encounter 4. Give or receive a patient handover to transition care responsibility. Providing a safe environment for learners to implement these EPAs, can increase competence and confidence of the learners, enhance patient safety, and increase residency program directors' confidence in new interns.

**Summary of Work:** A 3 station Subinternship Objective Structured Clinical Examination will occur at USC and Loma Linda University. At station 1, learners will conduct a patient H&P and counsel patients. At Station 2, learners input the H&P electronically and speak to a "standardized" nurse about a cross coverage patient. At Station 3, learners present the case to an attending physician, including their differential diagnoses and treatment plan. Attendings dialogue with learners regarding clinical reasoning. Learners then "hand-off" the patient using the IPASS format and are evaluated.

**Summary of Results:** Learners receive extensive feedback and coaching from the faculty in Station 3 on three of the afore-mentioned EPAs - oral presentation skills, clinical reasoning and hand-off. Focus group discussions with students have demonstrated high ratings 4.85 (5 point Likert Scale) for this exercise and usefulness for GME.

**Discussion and Conclusions:** The busy environment of clinical care makes it difficult to assess EPAs for trainees in medical school. Adoption of EPAs by the ACGME as a standard for assessing trainees is crucial for a situation to be in place to assess a trainees EPA readiness. Our program institutes a formative way for this to occur that provides feedback via faculty to student interaction.

**Take-home Messages:** EPAs are important for entrustment decisions. Assessment of learner's progress in achievement of EPAs through faculty-student interaction in a standardized setting provides information for determining readiness for graduation.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8IIo4 WITHDRAWN





## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8II05 (560)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Evidence-based Competency in OSCE: An Analysis of the Relation between Entrustable Professional Activities Scale and OSCE Assessments

#### AUTHOR(S):

- Chih-Ming Hsu, Chiayi Chang Gung Memorial Hospital, Chang Gung Medical Education Research Centre (CG-MERC), Taiwan (Presenter)
- Chih-Cheng Hsieh, Chiayi Chang Gung Memorial Hospital, Taiwan
- Cheng-Ting Hsiao, Chiayi Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Medical knowledge evolves rapidly. Providing optimal medical care, healthcare professionals should integrate the latest scientific evidence and patient values with professional knowledge. Solving clinical problems with evidence-based medicine (EBM) is a key theme in medicine. Therefore, training and evaluating medical students' ability to apply evidence-based medicine is an important objective.

**Summary of Work:** Five experts developed the EBM OSCE, comprising five stations, of which two were unscored. Scored stations were: (1) medical history performance/PICO, (2) literature search/evaluation ability, (3) explanation of condition by literature. Fifteen PGYs participated (n=45 stations). Pearson's Correlation examined associations between OSCE checklist, global rating, and Entrustable Professional Activities (EPAs).

**Summary of Results:** The correlations among the three assessments were moderately/highly correlated: medical history performance and PICO establishment ( $r=.722^{**}/.540^{*}/.561^{*}$ ), literature search and evaluation ability ( $r=.915^{**}/.941^{**}/.899^{**}$ ) explanation of condition by literature ( $r=.883^{**}/.879^{**}/.909^{**}$ ). Three types of questions reached significance, which means the EPAs Scale of the EBM shows the same results as the OSCE.

**Discussion and Conclusions:** The OSCE checklist assessed two concepts: EBM and consultation skills. This might have confused evaluators administering the EPAs scale, confounding the EPAs scale-OSCE assessment relationship. Overall, the EPAs scale is comparable to an OSCE, given the intense preparation for OSCE, EPAs scale is a more accessible and convenient evaluation method.

**Take-home Messages:** EPAs Scale is a fast and easy way for clinical teachers to assess trainees' competency in evidence-based medicine when there is insufficient time for an OSCE. The scope of application for an EPAs scale in teaching can be further explored in the future.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

### 8IIo6 (941)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Formative assessment with the entrustability scale in a postgraduate resident objective structured clinical exam

#### AUTHOR(S):

- Kuei Ting Tung, Far Eastern Memorial Hospital, Taiwan (Presenter)
- Wei Horng Jean, Far Eastern Memorial Hospital, Taiwan
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- Yun Chen, Far Eastern Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** The objective structure clinical exam (OSCE) has been widely applied for assessment of postgraduate training. Whilst checklist scores and global ratings are useful for summative assessment, their value for formative assessment and feedback in competency-based education are more limited. Increasingly, “entrustability scales” have been utilized to reflect a judgment of competence and progress that is clinical meaningful to both raters and trainees. We hypothesize that incorporating an entrustability scale would be more objective than the global rating and improve feedback.

**Summary of Work:** Forty-two first year postgraduate general medicine residents participated in an end-of-year OSCE. Two separate OSCEs were held, each consisting of five long stations (12 minutes) from different specialties assessing clinical skills. For each exam, two separate faculty raters assessed the residents with checklist scores. They were further assessed with either a global rating (Likert scale 1-5) or a modified entrustability scale (Score 1-5, level of supervision). The inter-rater reliability of these scores was analyzed with intra-class correlation (ICC). Raters were surveyed on their satisfaction with the global rating or entrustability scale.

**Summary of Results:** Entrustability scale scores were lowest in pediatric and obstetrics/ gynecology exams, with average scores from 2 (proactive supervision with assistance when needed) to 3 (supervisor immediately available). Although variable, inter-rater reliability of the entrustability scale (ICC 0-0.995) was comparable to checklist scores (ICC -0.031-0.943) and global ratings (ICC -0.04-0.93). Good reliability (ICC >0.6) was found on half of the exams. When raters were surveyed comparing the entrustability scale to global rating, the entrustability scale was found to be more objective, easier to rate, better reflecting the checklist score, more useful to differentiate resident proficiency and more useful for feedback.

**Discussion and Conclusions:** The entrustability scale is useful measure of physician competence, is an objective measure and can be incorporated into the OSCE to assess postgraduate residents and provide feedback. Inter-rater reliability varied greatly, likely reflecting the need for further faculty training.

**Take-home Messages:** Entrustability scales reflect whether a postgraduate resident can perform important clinical skills independently. Incorporating this measurement into the OSCE if valuable for assessment and feedback.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8II07 (1384)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The integration of on-line workplace assessment with entrustability scale to evaluate the milestones in ENT residents

#### AUTHOR(S):

- Chia-Der Lin, China Medical University & Hospital, Taiwan (Presenter)
- Po-Chang Wu, China Medical University & Hospital, Taiwan
- Xiao-Juan Lin, China Medical University & Hospital, Taiwan
- Fremen Chih-Chen Chou, China Medical University & Hospital, Taiwan

#### ABSTRACT

**Background:** It is still a challenge to accurately evaluate the progression of clinical competency. Frequent trainee's observation may result in highly variable evaluations which are skewed by factors other than the student's actual performance. Entrustability scales, composed of distinct narrative descriptions, are more meaningful to clinical assessors. Many ad hoc entrustment decisions are crucial to the final summative judgement for the trainees. How to accumulate enough ad hoc entrustments may be important in the clinical assessment of residents' competency.

**Summary of Work:** According to the traditional milestone program of ENT residents in Taiwan ENT Society, the assessment items of entrustable professional activities (EPA) were established using modified Delphi's method by experienced senior assessors. An on-line workplace assessment with entrustability scale to evaluate the milestones in ENT residents was developed. The trainees could send out their EPAs to their assessors in their daily work through this system, while the assessors might evaluate the trainees and give their realtime feedbacks. Finally, the residency review committee summed up the residents' performance yearly.

**Summary of Results:** 12 EPAs (including 67 observable professional activities, OPAs) were established using modified Delphi's method by 11 experienced senior assessors. 10 Residents (from 1st year to 5th year resident) participated in this EPA survey of clinical competency from July, 2017 to December, 2018. All the residents could comply with the survey well. The scales of clinical performance were higher as the resident training proceeded. All the residents and assessor perceived the assessment as a convenient and feasible way without interrupting their clinical work.

**Discussion and Conclusions:** Our on-line workplace assessments with entrustability scales are situation dependent. It could provide many ad hoc entrustment decisions by different assessors in daily clinical settings, including wards, operative theaters or emergency. In addition, it could effectively promote mutual feedbacks between clinical teachers and trainees, especially in a busy clinical scenario. Significant advancement of overall clinical performance was observed in different training stages.

**Take-home Messages:** A delicate integration of on-line workplace assessments with entrustability scales could provide another useful and inspiring tool in authentic clinical settings.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

**8IIo8** (2670)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Establishing consensus for entrustable professional activities (EPAs) assessment via interprofessional collaboration: a pilot faculty development program

#### AUTHOR(S):

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- Jason Jiun Shiou Lee, Department of Research and Medical Education, Taipei City Hospital, Taiwan
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- Yi Ning Liu, Department of Research and Medical Education, Taipei City Hospital, Taiwan
- Da Chen Chu, Department of Research and Medical Education, Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** Entrustable professional activities (EPAs) are the units of professional tasks which can be entrusted to a trainee once adequate competence has been reached. However, the assessment of EPAs usually still faces the lack of consensus between various medical specialties. Therefore, we've designed a faculty development program for reaching consensus of EPAs assessment via inter-professional collaboration.

**Summary of Work:** The Department of Research and Medical Education in Taipei City Hospital had held a faculty training workshop of EPAs assessment for PGY trainees since Dec, 2018. The workshop had two sessions, including practice and designing of EPAs assessment, respectively. All participants were divided into several groups for discussion and collaboration. At practice session, several videos of clinical scenarios such as PGY trainees doing patient interview or duty handover were displayed and every group could discuss and judge the level of supervision scales (total 5 levels) for EPAs according to PGY trainees' performance. At second session, each group was requested to choose one clinical task as EPA for PGY trainees and work together to design suitable evaluation items as its assessment.

**Summary of Results:** A total of 44 participants had joined this workshop, including medical doctors, nurse practitioners, pharmacists, and other paramedical staffs. As to practice of EPAs assessment, the percentage of five levels of supervision scales were 12.1% (level 1), 28.8% (level 2), 30.3% (level 3), 19.6% (level 4) and 9.1% (level 5), respectively. The result revealed that level 3 (practice with supervision on demand) was the easiest to reach group consensus, but level 5 (perform without supervision) was the hardest. As to designing of EPAs assessment, most groups had chosen specific interprofessional practice as topic, such as inter-disciplinary consultation or competence to conduct IPP conference.

**Discussion and Conclusions:** The purpose of this workshop focused on establishing consensus for EPAs assessment via interprofessional collaboration. Such teamwork made most participants know what items of EPAs that other specialists concerned, too. The feedback from most participants also appreciated this workshop arrangement.

**Take-home Messages:** This program not only helped for forming consensus of EPAs assessment, but also provided a nice model for interprofessional collaboration.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8II09 (2227)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Using EPAs to assess readiness for post-graduate training

#### AUTHOR(S):

- Wayne Woloschuk, University of Calgary, Canada (Presenter)
- Sylvain Coderre, University of Calgary, Canada
- Kevin McLaughlin, University of Calgary, Canada

#### ABSTRACT

**Background:** The purpose of undergraduate medical education is to prepare students for residency. In an attempt to assess our graduates' readiness for post-graduate training we requested feedback from resident program directors about the entrusted professional activities (EPA) of our medical school graduates.

**Summary of Work:** An assessment tool asking whether a resident is capable of performing 6 EPAs with entrustment at an indirect level of supervisions (Yes/No), whether the resident required remediation (Yes/No), plus an overall rating [1 (Much weaker than most) to 5 (Much stronger than most)] was developed. The form was sent to program directors to assess our MD graduates approximately 6 months into post-graduate training. Performance data on two recent classes (2017 and 2018) were collected. Students provided consent for our program to collect the data.

**Summary of Results:** Program directors returned performance data for 126/155 (81%) graduates of the class of 2017 and 95/145 (66%) graduates of the class of 2018. Entrustment (Yes) was reported for 221/221 residents on EP1 (History & physical exam), 219/221 on EPA2 (Differential diagnosis), 221/221 on EPA3 (Investigations), 220/221 on EPA4 (Communicate results), 219/221 on EPA5 (Management plan) and 220/221 on EPA6 (Recognize urgent/emergent care). 1/221 (0.5%) resident required remediation. Overall, 125/220 (57%) residents were rated stronger than most residents in the program, 84/220 (38%) were rated as similar to most residents and 11/220 (5%) were rated as weaker than most residents in the program. One resident was rated U/A (Unable to assess).

**Discussion and Conclusions:** Assessing the readiness for residency of MD graduates using EPAs is feasible. Program directors, using 6 EPAs, reported the entrustment of nearly all of the assessed graduates who were approximately 6 months into post-graduate training. Because some EPAs are more advanced than others waiting until later in training to assess all 12 EPAs is necessary.

**Take-home Messages:** Requesting program director feedback on entrustment activities can be used as a gauge for undergraduate medical education programs to determine whether their graduates are adequately prepared for post-graduate training.



## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8II10 (2424)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A systematic review on entrustable professional activities in clerkships during undergraduate medical education - preliminary results

#### AUTHOR(S):

- Severin Pinilla, University of Bern, Department of Psychiatry, Switzerland (Presenter)
- Eric Lenouvel, University of Bern, Department of Old Age Psychiatry, Switzerland
- Andrea Cantisani, University of Bern, Department of Psychiatry, Switzerland
- Werner Strik, University of Bern, Department of Psychiatry, Switzerland
- Christoph Nissen, University of Bern, Department of Psychiatry, Switzerland
- Sören Huwendiek, Institute for Medical Education (IML), Switzerland

#### ABSTRACT

**Background:** We conducted a systematic review in order to identify the available evidence in the field of designing clerkship curricula based on entrustable professional activities (EPAs) in undergraduate medical education (UME) (ten Cate et al. 2015). Further aims of the review were to clarify key strategies to implement EPA-based clerkship curricula and to examine the emerging evidence in the early phase of introducing EPAs in UME. The results are considered relevant for planning future research and clinical teaching activities in this medical education field.

**Summary of Work:** We searched PubMed, Embase, Cochrane Library, ERIC, PsycINFO, Scopus, Web of Science and all Ovid journals for articles reporting qualitative and quantitative research as well as conceptual and curriculum development reports on entrustable professional activities in clerkships during undergraduate medical education until 15th January 2019. We based our review method on the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) (Moher et al. 2009).

**Summary of Results:** 2,026 records were screened after database searching. A total of 27 articles were included in the systematic review. Three countries (Canada, USA, Switzerland) have developed discrete sets of EPAs for UME. The included articles investigated assessment strategies of EPAs, EPA-based curriculum development, and educational outcomes of EPA-based curricula. 30.7% of studies were specialty specific research reports.

**Discussion and Conclusions:** In addition to EPA-based curricula covering all years of medical school, several clinical specialties are starting to integrate EPAs in their clerkship curricula. Currently there are only preliminary data for few EPAs with regards to educational outcomes. However, there is a growing body of evidence indicating that EPAs can be effectively used for undergraduate medical education and serve as a basis for internationally comparable competency-based curricula.

**Take-home Messages:** There is limited but increasing evidence, that EPAs have a positive impact on educational outcomes in undergraduate medical education. Further research is needed to understand how educational resources should be allocated in order to develop efficient and effective EPA-based curricula spanning the learning trajectory from classroom to bedside in different specialties in undergraduate medical education.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8II11 (1497)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Planning the introduction of Entrusted Professional Activities (EPAS) in undergraduate medical education

#### AUTHOR(S):

- Nêmora Barcellos, Unisiversidade do Vale do Rio dos Sinos - Unisinos, Brasil (Presenter)
- Elson Romeu Farias, Unisinos, Brasil
- Cláudia Salles Stadlober, Unisinos, Brasil
- Maria Letícia Ikeda, Unisinos, Brasil

#### ABSTRACT

**Background:** EPAS were developed to articulate competencies needed by a medical professional into clinical practice, making them feasible [Ten Cate O. Med Educ. 2005; 39 (12): 1176-1177]. These are tasks or procedures, that can be entrusted to a graduate or resident after supervised training, for unattended execution. An EPA requires multi-skill proficiency and is a facilitator in evaluation, when compared to assessment based on isolated competencies [Ten Cate O, et al. AMEE Guide No. 99. Med Teach. 2015; 37 (11): 983-1002].

**Summary of Work:** In the new Unisinos Medical Course, EPAS will be introduced in the second semester and progressively in the following ones. Different evaluation methods, as well as the Unisinos alumni e-Portfolio, will support EPAS-related assessment and feedback.

**Summary of Results:** An example of competency matrix/EPAS is presented. It was developed for the activity of Individual-Community Interaction, in which the students go to the field, with teachers, and accompany families in the territory of a Family Health Strategy, during three semesters. 1. Develop attitudes for the care of health problems/CanMEDS 2.2/Collaborator/Nutrition counseling 2. Healthy lifestyles promotion, reconciling individual and community needs and promoting social transformations/CanMEDS 2.2/Collaborator/Guidance on household risks 3. Demonstrate ability to communicate and interact, working cooperatively in groups, respecting differences and acting as articulator/CanMEDS 5.1 and 5.2/Professional/Anthropometry and vital signs 4. Understand the importance of surveillance systems, and training for routinely feeding them and register on medical records into daily practice/CanMEDS 5.1 and 5.2/Communicator/Document clinical encounters with accuracy and accessible language

**Discussion and Conclusions:** Although numerous universities use EPAS with medical residents, their use in undergraduate education is still innovative. EPAS approach is related to the progressive development of skills within learning and the development of confidence, increasing effectiveness of the educational process, patient safety and quality of care. [H. Carrie Chen, et al. Academic Medicine, Vol. 90, No. 4 / April 2015]

**Take-home Messages:** Innovation is needed to ensure medical students' interest and the effective incorporation of competencies in medical practice.

## #8II - Posters - Curriculum: Entrustable Professional Activities (EPAs)

8II12 (3370)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluation of the use of mobile technology in competency-based assessment in undergraduate medical education

#### AUTHOR(S):

- **Norah Duggan, Memorial University of Newfoundland Faculty of Medicine, Canada (Presenter)**
- Heidi Coombs-Thorne, Memorial University, Canada
- Vernon Curran, Memorial University, Canada
- Diana Deacon, Memorial University, Canada
- Stephen Pennell, Memorial University, Canada
- Katherine Stringer, Memorial University, Canada

#### ABSTRACT

**Background:** In 2015, Memorial University became the first medical school in Canada to introduce EPAs into an undergraduate clerkship curriculum and to structure a formative assessment process around EPAs. This process was based on the concept of programmatic assessment consisting of cycles of training and longitudinal assessment. An electronic EPA clinic card was introduced that enabled preceptors to submit formative observational assessments of learner performance using mobile technology (e.g., mobile phones). This study evaluates validity, feasibility and educational effect of electronic clinic cards in the formative assessment of EPAs.

**Summary of Work:** Our study uses a mixed-methods triangulation approach encompassing: reliability and inter-rater analyses of EPA scores for N=80 students in the Core Experiences clerkship course; predictive validity analysis of EPA scores with summative discipline examination scores; student and faculty surveys; and faculty focus group to explore satisfaction with a mobile technology EPA-based assessment system.

**Summary of Results:** Survey results from students (response rate 21.3%) and preceptors (response rate 25.8%) indicate the electronic card was easy to access and use and was dependable. Both groups felt the electronic card process was less successful in facilitating effective coaching feedback between learners and preceptors. Preceptors responded that more faculty development was needed. Contrary to the intent of the process, to encourage immediate feedback, participants did not respond in a timely fashion.

**Discussion and Conclusions:** Free text comments allow the collection of rich assessment data and are especially useful in formative assessment. Training is essential for both learners and preceptors in a variety of formats to reach all users. Involving users in development and implementation ensures the assessment system is user friendly. User acceptability is influenced by a number of factors, including the process for data entry and submission. Cultural change is a major determinant of success in implementation of new assessment systems, and stakeholder engagement is essential for successful uptake of mobile technologies for work-based assessment.

**Take-home Messages:** Mobile technology offers a feasible means for facilitating work based assessment of EPA achievement and encouraging direct observation and assessment of learner performance.

## #8JJ Posters - Clinical Teaching 1

### 8JJ01 (1679)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Professional development among medical students in Longitudinal Integrated Clerkship in Taiwan: A Qualitative Study

#### AUTHOR(S):

- Shih-Chung Huang, Kaohsiung Armed Forces General Hospital, Taiwan (Presenter)
- Chao-Heng Kao, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Yan-Di Chang, National Defense Medical Center, Taiwan
- Yaw-Wen Chang, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Chou-Yuan Ko, Kaohsiung Armed Forces General Hospital, Taiwan

#### ABSTRACT

**Background:** Professional development is needed throughout the whole medical school curriculum. The clerkship is a pivot stage for medical students to achieve professional skills in their early years of clinical training. The longitudinal integrated clerkship (LIC) is a model of clinical education and commonly implemented in western countries. This study is aimed to explore the outcome of professional development among LIC students in Taiwan.

**Summary of Work:** LIC graduates of academic year 2015/16 and LIC students of 2017/18 were invited. An in-depth interview script was developed by the authors, designed to guide participants in their reflections on three aspects: the length and nature of the relationship with their LIC patients, the ethical/professionalism issues on patient encounters, and the development of professional skills. A general inductive method was used in the analysis to identify themes from interview data.

**Summary of Results:** Seven graduates and five medical students were enrolled in this study. Six major themes were found: 1) holistic approach to patients, especially on psychosocial aspects; 2) honest about and realizing one's limits; 3) more willing to see and listen to patients; 4) more confident to first-line care of patients; 5) able to prioritize clinical tasks; 6) better communication skills. The participants reported that the developed skills which they valued most during LIC were: problem-solving, communication with the attending/patient, and establishing a therapeutic alliance with the patient.

**Discussion and Conclusions:** The LIC program strengthened the students' ability to approach patients holistically with bio-psycho-social aspects. In general, students learned to take responsibility for their patients and be more pro-active. They were better at cultivating a good relationship with and gaining their patients' trust even years after the program. The also showed honesty and professionalism after LIC training. The limitation of this study was a small sample size and no comparison group.

**Take-home Messages:** The design of LIC could improve students' motivation to understand, communicate with, and take care of patients.

## #8JJ Posters - Clinical Teaching 1

### 8JJ02 (552)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Facilitators and Barriers to Medical Student Learning in the Outpatient Setting

#### AUTHOR(S):

- **Philippa Horner, The Hillingdon Hospitals NHS Foundation Trust, UK (Presenter)**
- Dilshani Hunukumbure, The Hillingdon Hospitals NHS Foundation Trust, UK
- Jonathan Fox, The Hillingdon Hospitals NHS Foundation Trust, UK
- Saroj Das, The Hillingdon Hospitals NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Much of the education of medical students takes place in clinical environments. The outpatient clinic is one setting where students can struggle to use their time effectively for learning. Studies show barriers to learning in clinical settings include factors such as lack of a learning plan (Taylor and Hamdy, 2013); specific to outpatient settings, Regan-Smith et al (2002) found lack of predictability and lack of continuity as problematic for learning. This study aims to achieve insight into the views of learners and clinicians with regard to facilitators and barriers in clinic-based learning.

**Summary of Work:** This is a qualitative research study with a social constructivist outlook. Data collection is ongoing (January-March 2019) using semi-structured interviews and questionnaires to gain insight from the perspective of ten medical students and ten clinicians. Triangulation of this information will improve the accuracy of the results. Semi-structured interviews will be recorded and transcribed verbatim. Once all data is available, thematic analysis will be performed.

**Summary of Results:** Interview data thus far explain that the opportunity for students to get “hands on” and immerse themselves in the clinical reasoning and management plans further enhances the benefits of this environment. As well as clinical knowledge, students can learn a lot about clinical communication skills through the role-modelling of their “teachers”. Key barriers can be considered as: a) teacher-related e.g. lack of attempts to engage students in discussion, b) student-related e.g. lack of interaction with patients and c) environment-related e.g. lack of time available to discuss patient cases and lack of space available for students to assess patients independently.

**Discussion and Conclusions:** Delivering high-quality educational interventions in the busy setting of the outpatient clinic can be challenging but clinicians have many opportunities to influence a student’s learning by guiding them in practical activities and setting examples of good clinical practice. Students must engage with this process, however, in order to develop as medical professionals.

**Take-home Messages:** Students attending outpatient clinics should be mindful that engaging in patient interactions will enhance learning and clinicians should strive to facilitate this by setting learning goals and asking thought-provoking questions.



## #8JJ Posters - Clinical Teaching 1

### 8JJ03 (516)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Optimising medical students' learning during clinical placements

#### AUTHOR(S):

- Vardah Alam, GKT School of Medical Education, King's College London, UK (Presenter)
- Bahadur Anjum, Newham University Hospital, UK

#### ABSTRACT

**Background:** Much has been written about learning styles, how expertise develops in medicine and the influences on student mind-sets and behaviours. Little has been documented by students about which learning methodologies they find most beneficial and why. This study puts students' perspectives about their learning during a paediatric clinical placement at its core and offers an insight into how students' learning experiences can be optimised and delivered in an effective and clinically relevant manner.

**Summary of Work:** Medical student paediatric placements were redesigned in Newham Hospital in response to Action Research based recommendations. Bedside teaching became focused on history elicitation and signs analysis followed by a brief discussion on management, rather than the presentation of clinical cases in a classroom. A weekly single best answer question style session was initiated as well as a weekly session requiring students to recognise symptoms and signs through images. Feedback was collected from 149 students over five years using a Likert scale questionnaire and free texts. Freehand comments were also encouraged; these then underwent conventional content analysis to code and identify themes in the data.

**Summary of Results:** 149 students completed their evaluation forms, with no unusable forms, and 297 freehand comments were received. Teaching methods consistently rated highly for educational value were those that are practical; focused on clinical signs and symptoms; which offered opportunities for discussion and student involvement with timely feedback. In this respect 51% (n= 1073) of all changes were rated as very useful and only 3% (n=62) were rated as not useful. In terms of the learning environments: students preferred inpatient settings to community settings.

**Discussion and Conclusions:** Often students experience difficulty not in the traditional content learning of medicine but in learning to recognise and interpret the data before them. Students found this placement was made effective as they were exposed to a wide variety of presentations for common conditions and encouraged to develop their own patterns of those symptoms and signs that occurred consistently or most commonly.

**Take-home Messages:** (1) Seeking student feedback consistently is crucial in optimising their learning experience. (2) Creating placements that offer strong theoretical knowledge grounded in practical patient examples establishes good clinical practice.

## #8JJ Posters - Clinical Teaching 1

### 8JJ04 (206)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Improvement of Self-confidence of Medical Students after online Procedural Video Demonstration (SimME5)

#### AUTHOR(S):

- **Rossukon Khotcharrat, Naresuan University, Thailand (Presenter)**
- Napat Rattanawongsa, Maharaj Nakhonratchasima Hospital, Thailand
- Thitirat Pattanathaiyanon, Songkhla Hospital, Thailand
- Sutthini Tirat, College of Medicine and Public Health Ubonratchathani University, Thailand
- Thanachai Panaput, Khon Kaen Hospital, Thailand
- Withita Jangiam, Vachira Phuket Hospital, Thailand

#### ABSTRACT

**Background:** The level-1 procedural skills (does without supervision) of Medical Competency Assessment Criteria for National License is crucial. Some procedures are required for review and practice. Thus, easily accessible electronic instructional media may enhance procedural proficiency and self-confidence.

**Summary of Work:** Objectives To Compare the medical student's self-confidence of procedural skills before and after watching online video demonstration produced by the EMCE5 group. Satisfaction, recommendation, and additional view were also evaluated. Methods Twenty-six level-1 online procedural video demonstrations; 11 for 4th-yr, 11 for 5th-yr and 4 for 6th-yr, were produced and uploaded to Youtube (link <http://goo.gl/kv4tiY>). Pre and post attending questionnaires for evaluating the self-confidence and satisfaction were created using 5-score Likert scale. We have surveyed between June 1 and July 12, 2018. The paired t-test was used to compare the pre and post average scores of the self-confidence,  $p$ -value<0.05 was the level of significance.

**Summary of Results:** A total of 238, 126 4th-yr, 49 5th-yr and 63 6th-yr, medical students from 28 medical education centers answered the questionnaires. The overall mean+SD scores of post attending confidence,  $3.98 \pm 0.13$ , was higher than pre attending confidence,  $2.77 \pm 0.31$ ,  $p < 0.01$ . The mean score of satisfaction was  $4.33 \pm 0.15$ . All procedures showed significant increasing of mean self-confident scores after watching video demonstration. There were some procedures that had mean self-confident scores < 2.5 regarding, aerosol therapy, gastric gavage & lavage, intravenous fluid and normal labor.

**Discussion and Conclusions:** SimME5 is useful for improving confidence in procedural performance of clinical year medical students and should be considered as supporting instructional media.

**Take-home Messages:** At the present time, electronic procedural instruction media is useful and accessible all the time to serve the student's needs.

## #8JJ Posters - Clinical Teaching 1

8JJ05 (2533)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A corpus-based linguistic approach to the pedagogy of the writing of the story of patient's illness

**AUTHOR(S):**

- Pi-Hua Tsai, Mackay Medical College, Taiwan (Presenter)

**ABSTRACT**

**Background:** The history of the present illness (HPI) is a written narrative that tells the story of the patient's illness, including how it started and how it progressed (Buttrey, 2013). Medical students have trouble deciding what content to include and writing it grammatically.

**Summary of Work:** Taking a corpus linguistic approach, this study investigated the differences in the linguistic features and content of HPI writings of interns or residents in a local hospital in Taiwan and those of the HPI by an American physician, who taught them medical writing. Three corpora were created: a corpus of 11 actual case histories of the present illness by the interns or residents (2355 words) and the rewrites-up of the same cases by the American physician (2424 words); the American physician's comments on the content of the interns or residents' writes-up (4326 words); the American physician's comment on the English they used (2783 words). Wordsmith Tools was employed to compare and analyze the corpora.

**Summary of Results:** The results showed that no perfect tenses were used to indicate the duration of a patient's illness in the interns or residents' HPI writings. Nor were adjectives (e.g. intermittent) and articles (e.g. the or a) added to indicate such symptoms as fever and dizziness. Moreover, the number of the verbs "noted" and "denied" used by the interns or residents was twice as much as that used by the American physician. In the case of the noun "patient," they used half as much as that by the American physician. As to the content, the American physician suggested more information and description about symptoms be added, (e.g. when exactly the pain started, where it was and how long it lasted), the past and the family history of the patients, the risk factors for a disease, and patient's social life (e.g. drinking).

**Discussion and Conclusions:** The alternative linguistic forms used by Taiwanese interns or residents might be influenced by their native language. Some guidance for the instruction and learning of HPI writing is also proposed.

**Take-home Messages:** The results of this corpus linguistic analysis can contribute to the designing of teaching authentic materials for HPI writing and medical students' self-study.

## #8JJ Posters - Clinical Teaching 1

### 8JJ06 (2352)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### We learned more in a smaller hospital: The medical students' experiences and feedback on morning reports in two hospitals

#### AUTHOR(S):

- Yu-Hsin Chen, Tri-Service General Hospital, National Defense Medical Center, Taiwan (Presenter)
- Shih-Chung Huang, Kaohsiung Armed Force General Hospital, Taiwan
- Yaw-Wen Chang, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Yan-Di Chang, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** Morning report is an important educational activity for the medical staffs. The human and logic resources are more abundant in a medical center than in a regional hospital, which might have an impact on teaching capacity. The study aimed to compare the medical students' experience and feedback on the morning report held in two hospitals.

**Summary of Work:** The internal medicine training in M5 core clerkship composites of 9 segments of two-week rotations in a medical center, and one two-week rotation in a regional hospital. Medical students at the end of internal medicine rotation were invited. The data were collected using semi-structured interviews and analyzed using the general inductive method.

**Summary of Results:** The frequency, duration, and the number of participants were almost equivalent in two hospitals. But in the medical center, the morning report was held in one sub-specialty division and the focus of the discussion was specific to that field. Almost all of the medical students reported they learned more from the morning reports in the regional hospital. It might refer to three reasons: 1. Common language: Abbreviations would confuse the beginners. Searching them made students lost in the discussion. 2. Complete thinking process: Processes of clinical reasoning which was important for the beginners were usually skipped in the single sub-specialty morning report. 3. Multiple sub-specialties: Students could see how doctors collaborate and communicate. Moreover, they could receive feedback from various sub-specialist at the same time.

**Discussion and Conclusions:** The advantage of morning reports in a medical center was that the students can see rare cases and complications. Instead, students preferred to engage more in a regional hospital. A good morning report should allow learners and teachers to interact and discuss patient care, improve clinical reasoning skills, learn teamwork, and receive feedback from various sub-specialist at the same time.

**Take-home Messages:** Medical students learned more in morning reports that engaged learners by using common language, displaying the thinking process, and demonstrating collaboration.

## #8JJ Posters - Clinical Teaching 1

8JJ07 (2218)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Level of Confidence in Non-technical skills of Clinical Year Medical Students and the Contributory Parts of the Medical Curriculum

#### AUTHOR(S):

- Pophum Lawtongkum, Srinakharinwirot University, Thailand (Presenter)
- Orasa Sukmark, Srinakharinwirot University, Thailand
- Wipada Laosooksathit, Srinakharinwirot University, Thailand
- Amarin Narkwicchan, Srinakharinwirot University, Thailand

#### ABSTRACT

**Background:** While non-technical skills are crucial for developing safe practices within the medical sphere, Srinakharinwirot University does not yet have an explicit training of such skills. This questionnaire assesses the level of confidence in non-technical skills of clinical year students and establishes which parts of the curriculum aided in their development of which may be improved upon.

**Summary of Work:** A questionnaire was sent out to clinical year students, comprising of questions determining the level of confidence in each skill using a Likert scale. This was followed by tick-the-box questions determining the part of the medical curriculum which contributed to the development of the corresponding skill. The mean and standard deviation of the Likert scale scores were calculated and ranked, while percentages pertaining to the parts of the curriculum to each skill were established.

**Summary of Results:** The skill students scored as most confident in was 'offering assistance' ( $7.98 \pm 1.64$ ), of which clinical clerkship on the wards was the most contributory in its development (29.5%), with community medicine (26%) and extracurricular activities (14%) following suit. Similarly, clinical clerkship contributed most to the second and third scoring skills of 'planning and preparation' ( $7.92 \pm 1.61$ ) and 'role responsibility' ( $6.41 \pm 1.92$ ). This was followed by community medicine (12.89%, 14.97%) and problem-based learning (14.68%, 12.57%). In lower scoring skills such as 'generating alternative options to problems' ( $5.94 \pm 1.85$ ), and 'maintenance of standards' ( $6.41 \pm 1.91$ ), clinical clerkship was also the most contributory (36.0%, 36.14%) in the development of the skills.

**Discussion and Conclusions:** The clinical year Srinakharinwirot University student's confidence in non-technical skills can be developed mainly through clinical clerkship. Knowing this, it is not difficult for improvements to be made in the already existing clerkship syllabus framework, and through encouraging role models (interns, residents, attending staff) in the wards to better aid in the development of non-technical skills.

**Take-home Messages:** Non-technical skills in medical students can be developed mainly through clinical clerkship, of which it is not difficult to plan the existing syllabus to aid better in the development of the skills.



## #8JJ Posters - Clinical Teaching 1

**8JJ08** (2888)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

**“Not all of us can do great things. We can do only small things with great love”**

**AUTHOR(S):**

- Chalermpong Sukontapol, Vachira Phuket Hospital, Thailand (Presenter)

**ABSTRACT**

**Background:** Caregiving only calls us to learn into love. We didnt know possible. Caregivers have an important role for many long time. Vulnerable patients with such as children, psychiatric and mental health problems or deliberating conditions may need a special holistic care. Patients and doctors may be an important combination group. Caregivers may have a function to join together bonding for strengthening of physical, mental, social and spiritual healing power. How did we expect the important role of our caregivers?

**Summary of Work:** Clients, caretakers and mental health care team were interviewed and check rating scale to their opinions about how importance of the caretakers in various aspects (30 participants). (Each item 100 is perfect) This study was done in Talang rural hospital in Phuket. Importance about physical, medication care Importance about mind, mental health and encouraging Importance about social, activity and relationship Importance about better continuing treatment by doctors, nurses and team Importance about learning climate for medical students

**Summary of Results:**

Total points = 500 (100\*5)

CC1 = 380, CC2 = 400, CC3 = 380, CC4 = 450, CC5 = 500, CC6 = 480, CC7 = 500, CC8 = 450, CC9 = 480, CC10 = 500, CC11 = 500, CC12 = 500, CC13 = 500, CC14 = 320, CC15 = 500, CC16 = 500, CC17 = 500, CC18 = 480, CC19 = 335

Average (mean) = 455.53

**Discussion and Conclusions:** Total points of rating scale about caregiver were response in agreeable. Average score can be confirmed interesting point. Caregiver may be a person to teach our medical student and also have an important role for holistic care. We hope caregiver to develop a new pattern of holistic care and help for practical points in our study. Lesson learnt will develop this idea to our clinical curriculum.

**Take-home Messages:** Caregiver may be a group of person that we neglect to learn from them. Someone to help us for holistic care of the patient. New era of caregiver may just start.

## #8JJ Posters - Clinical Teaching 1

8JJ09 (356)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Outcomes of the short session structured Chest X-ray evaluation training for 4th-year medical students, Suratthani Medical Education Center, Thailand

#### AUTHOR(S):

- Thotsaporn Morasert, Suratthani Hospital, Thailand (Presenter)
- Arunee Tipwong, Suratthani Hospital, Thailand
- Direk Ekbawornwong, Suratthani Hospital, Thailand

#### ABSTRACT

**Background:** The evaluation of Chest X-ray (CXR) is often challenging for medical students and requires extensive experience. The structured interpretations of CXR are a process that requires a systematic approach; they would be the helpful guide for novice students to interpret the CXR. This study aims to compare the confidence and accuracy of CXR diagnoses between two different types of structured evaluation training on the 4th year medical students.

**Summary of Work:** A total of 25 fourth-year medical students were randomly allocated to one of two structured CXR evaluation training either ABCDEH mnemonic (ABC) or inside-out (ISO) groups. Thirteen students in the ABC group were taught with mnemonic: Airway, Breathing, Circulation, Diaphragm, Extra, Hidden, and 12 students in the ISO group were guided to evaluate CXR as inner-outer direction for 30 minutes. After finishing the training, 20 CXR quizzes (2 minutes per quiz) without clinical history were tested simultaneously. Twelve quizzes (60%) were abnormal images (3 pneumonia, 2 atelectasis, 2 lung mass, 1 congestive heart failure, 1 emphysema, 1 hilar mass, 1 pneumothorax, and 1 pleural effusion).

**Summary of Results:** There were no differences between mean  $\pm$  SD score ( $7.5 \pm 2.5$  vs  $6.6 \pm 2.4$ ,  $P = 0.344$ ), the pre-test confidence level ( $5.2 \pm 1.2$  vs  $4.1 \pm 1.4$ ,  $P = 0.051$ ) of ABC and ISO group, respectively. The mean confidence levels of post-test were significantly increased in both ABC ( $2.0$ , 95%CI  $1.13-2.85$ ,  $P < 0.001$ ) and ISO ( $2.57$ , 95%CI  $1.47-3.67$ ,  $P < 0.001$ ). The accuracy of interpretations were similar between ABC and ISO group, sensitivity ( $89.1\%$  vs.  $88.9\%$  [proportion of correctly identified abnormal images out of the total number of abnormal images]) and specificity ( $45.2\%$  vs.  $45.8\%$  [proportion of correctly identified normal images out of the total number of normal images]).

**Discussion and Conclusions:** Fourth-year medical students lack confidence and skill in CXR interpretation. However, their confidence improved after both short-session structured CXR evaluation training. The students have high sensitivity to detect the abnormal CXR but low specificity to identify the normal CXR.

**Take-home Messages:** Structured Chest X-ray evaluation is a helpful teaching strategy for the 4th-year medical students.

## #8JJ Posters - Clinical Teaching 1

8JJ10 (50)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Learning Reflection of Medical Students on the Sky Doctor Class

#### AUTHOR(S):

- Kanjane Wachirangsaman, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand (Presenter)
- Sivanath Peerachair, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Due to the spatial distributions of rural population in Thailand, access to health care services is fraught with difficulties. Therefore, the National Institute of Emergency Medicine has set up “Thai Sky Doctor Project” to help transporting patients through emergency aeromedical service using helicopters with Tak as one of the provinces driving this project. The Medical Education Center at Somdejphrajaotaksin Maharaj Hospital recognizes the importance of the project and launched the “Sky Doctor Class” in November 2018 to enhance emergency aeromedical service skills at real settings by using the role-play method as a teaching tool. This research study aimed to study the learning reflection of the medical students participating the “Sky Doctor Class”.

**Summary of Work:** This study was qualitative research with 17 medical students during clinical training who participated in the “Sky Doctor Class” as key informants. The data was collected from the written reflection of the participating medical students while data analysis was performed using descriptive statistics.

**Summary of Results:** Based on the reflective writings of the medical students, the reflection can be divided into 5 aspects as follows: (1) 17 students gained knowledge on emergency aeromedical service (100%), (2) 12 students derived a positive and enjoyable experience (70.5%), (3) 8 students realized the geographical and societal contexts of Thailand (47.05%), (4) 6 students felt their communication skills improved (35.29%), and (5) 4 students experienced anxiety while practicing emergency aeromedical service on the helicopter (23.52%).

**Discussion and Conclusions:** There was evidence from this study that the “Sky Doctor Class” can be used as a supplemental activity to empower medical students and broaden their vision of working as physicians in the future.

**Take-home Messages:** The reflective writing technique can identify the learning outcomes, recommendations, or concerns of medical students on supplemental activities. Data from reflective writings can be used to improve the next session of any given supplemental activity and increase the learning satisfaction level of medical students.

## #8JJ Posters - Clinical Teaching 1

8JJ11 (49)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Sky Doctor Project for Medical Students with Role-Play Learning Management

#### AUTHOR(S):

- Sivanath Peeracheir, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand (Presenter)
- Kanjaneer Wachirangsiman, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** The National Institute of Emergency Medicine established Thai Sky Doctor Project since 2009 with the aim to transport patients from remote areas by air. In the meantime, Tak is one of the provinces in Thailand in which Thai Sky Doctor Project has been implemented due to its mountainous geography with the population residing in such remote areas. Somdejphrajaotaksinmaharaj Hospital Medical Education Center realizes the importance of project and initiated the Sky Doctor Project to train medical students for aeromedical patient care. This research has aimed at assessing the participating medical students on the knowledge gained and satisfaction derived from project.

**Summary of Work:** The participants included 4 physicians, 17 medical students and 10 multidisciplinary health professionals. The activities were divided into 2 parts; the first was lecture on the aeromedical patient care principles and the second was a role-play of aeromedical patient care conducted at Tak Aviation Unit with 3 groups of SP. During the simulated scenario, the medical students role-played in transporting patients to helicopter. When project's activities were completed, participating medical students were asked to complete a questionnaire to assess their knowledge gained and the satisfaction derived from using a five-point Likert scale.

**Summary of Results:** All participating medical students, prior to this study, had not been involved in the Thai Sky Doctor Project. Overall, the Sky Doctor Project was assessed at the highest level of 4.71. The knowledge gained from participating in the project was at the highest level (mean=4.67) while the satisfaction level was also at the highest (mean=4.75).

**Discussion and Conclusions:** The development of aeromedical patient care skills under the Sky Doctor Project using role-playing in real settings was found to be one of the most effective teaching and training methods for medical students. Not only did this activity promote knowledge and satisfaction among the medical students but it also created a collaborative working experience between medical students and multidisciplinary health professionals.

**Take-home Messages:** With regards to certain topics in emergency medicine, medical instructors can apply role-plays in real settings in training medical students. Meanwhile, this role-play method is also consistent with instruction in the 21st century and can be used to transfer knowledge to medical students.

## #8JJ Posters - Clinical Teaching 1

8JJ12 (304)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The positive effect of student-oriented hospital ward rounds employing role-play and peer review on the clinical performance and professionalism of clerkship students

#### AUTHOR(S):

- Hajime Kasai, Health Professional Development Center, Chiba University Hospital, Japan (Presenter)
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#### ABSTRACT

**Background:** While role-play and peer review are used to train and evaluate communication skills in clinical education, it is rare for them to be used in combination during clinical clerkship (CC). We evaluated the effect of role-play and peer review in student-oriented hospital ward rounds dealing with actual patients during CC.

**Summary of Work:** Clerkship students conducted medical interviews with and performed physical examinations on their patients; these were reviewed by five peer students. Peer students observed the performance of the clerkship students while role-playing as senior physicians or patients' families; the performance was then evaluated based on the mini-clinical evaluation exercise (Mini-CEX) and the professionalism mini-evaluation exercise (P-MEX) by two attending physicians, comparing results from before and after the rounds. After CC, the students responded to questionnaires about the rounds.

**Summary of Results:** Ninety students completed the rounds, and the duration of each round was  $39.3 \pm 7.7$  minutes. The counselling abilities and professionalism of the students on Mini-CEX, as well as their doctor-patient relationship skills and reflective skills on P-MEX, showed significant improvement after the rounds ( $5.5 \pm 1.2$  vs.  $6.8 \pm 1.2$ ,  $p < 0.001$ ;  $5.7 \pm 1.1$  vs.  $7.1 \pm 0.9$ ,  $p = 0.001$ ;  $3.0 \pm 0.3$  vs.  $3.4 \pm 0.3$ ,  $p = 0.001$  and  $3.2 \pm 0.3$  vs.  $3.6 \pm 0.3$ ,  $p = 0.001$ ). There was also improvement in the performance of medical interviews and physical examinations. The student satisfaction level of the rounds was acceptable, and students recognized that the rounds provided multilateral viewpoints of patient care, which improved self-directed learning.

**Discussion and Conclusions:** Combining role-play and peer review in hospital rounds in CC improved the clerkship students' clinical performance and professionalism. The rounds also promoted the students' awareness of the importance of multilateral viewpoints in patient care. This method could encourage both comprehensive patient care, considering the patients bio-psycho-social aspects, and an increase in learning motivation. Additionally, this method can be easily and quickly implemented, because preparations involved with simulating patients and creating scenarios are not required. Moreover, the rounds were favorable to students and were of a suitable duration for them.

**Take-home Messages:** Role-play and peer review during student-oriented hospital ward rounds is a resource-effective tool in CC and can improve the clinical performance and professionalism of clerkship students.



## #8JJ Posters - Clinical Teaching 1

8JJ13 (3242)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Perceptions of Negative Teaching Approaches by Clinical Tutors in Kuwait

#### AUTHOR(S):

- **Manal Bouhaimed, Faculty of Medicine, Kuwait University, Kuwait (Presenter)**
- Jasmine Eliwa, Kuwait University Faculty of Medicine, Kuwait
- Deena Jamal, Ministry of Health, Kuwait
- Abdelrahman Alashqar, Ministry of Health, Kuwait
- Bann Qadoura, Faculty of Medicine, Kuwait

#### ABSTRACT

**Background:** Clinical ethics is a mandated core principle in Kuwait University Faculty of Medicine (KU FoM), the only medical school in Kuwait. Students are taught and expected to adhere to a code of ethics, including proper communication skills, with their patients, peers, and clinical tutors. However, various KU FoM clinical tutors implement negative teaching approaches towards students, a teaching style that is outdated in many curriculums worldwide. The study aims to identify KU FoM students' perceptions towards a negative clinical teaching approach based on their personal experiences.

**Summary of Work:** A questionnaire was distributed to a stratified random sample of 152 clinical year students in KU FoM. The questionnaire assessed each student's socio-demographic, personal experience with clinical teaching approaches, and perception towards such experience and approaches.

**Summary of Results:** A majority of students (71%) personally experienced negative teaching from a clinical tutor, including being asked questions intimidatingly (72%), spoken to rudely or with hostility (61%), belittled or humiliated (61%), and yelled at (54%). In addition, 82% of students witnessed other students experience negative teaching, including being yelled at (83%), spoken to rudely or with hostility (81%), asked questions intimidatingly (78%), belittled or humiliated (73%), and cursed or sworn at (32%). 40% of students reported that clinical tutors in both medical and surgical departments implemented negative teaching of equal frequency (40%), while 37% of students considered medical clinical tutors more adherent to negative teaching. All in all, 94% of students prefer the dissolution of negative teaching approaches with 87% of students perceiving the lack of usefulness in negative teaching, including asking intimidating questions (77%).

**Discussion and Conclusions:** Most medical students in KU FoM have experienced and witnessed negative teaching approaches implemented by clinical tutors. Moreover, most students do not benefit or support negative clinical teaching. Developing and improving the clinical teaching environment, including training clinical tutors with positive teaching approaches, is warranted.

**Take-home Messages:** Negative clinical teaching is commonly implemented in KU FoM with a lack of benefit reported by students. Training clinical tutors with more positive teaching approaches is warranted.

## #8JJ Posters - Clinical Teaching 1

8JJ14 (2940)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Repeated examination and retention of plastic surgical skills in medical students after one-day session skills training

**AUTHOR(S):**

- Nadda Kaewkumsan, Uttaradit Hospital, Thailand (Presenter)

**ABSTRACT**

**Background:** Incorporating plastic surgical skills, more complex activities, into basic surgical training in the medical student is challenging, especially, without self-controlled practice. Repeated examination reflecting motivational influences on learning may enhance and prolong the retention of the skills. This study aimed to test the hypothesis whether repeated examination can prolong the retention of skills.

**Summary of Work:** This was a controlled trial. We purposively assigned the fourth-year medical student to either repeated examination of the skills (intervention) group or conventional, one time, examination (control) group. The one-day session of the plastic surgical skill training covered skin lesion excision and Z-plasty. The session comprised self-directed training on bench models with immediate feedback from the researcher. Test for objective-structured clinical examination (OSCE) performance on week 4 and 8 for the experimental group and on week 8 for the control group after the end of the course. Task-specific checklist (TSC) and global rating scale (GRS) were performed by two independent plastic surgeons via recorded video of the students' OSCE performance measured at 8 weeks after the end of the course. Logbook to collect the number of individual practice prior to the exams.

**Summary of Results:** From 25 students; 12 in the intervention group and 13 in the control group, we found that TSC scores were not significantly different between the intervention and control groups ( $44.2 \pm 3.0$  vs.  $45.6 \pm 3.6$ ,  $p=0.06$ ). GRS scores of intervention group ( $36.4 \pm 4.4$ ) was lower than control group ( $38.8 \pm 4.8$ ,  $p=0.01$ ). The number of individual practice of the intervention group ( $5.0 \pm 0.9$ ) was lower than control groups ( $6.5 \pm 2.7$ ,  $p=0.07$ ). OSCE performance of intervention group were significantly decreased at week 8 ( $p<0.05$ ).

**Discussion and Conclusions:** Repeated examination of manual skills could not prolong the retention of surgical skills comparing to one examination. However, the number of individual practice prior to the exams also might influence the skills.

**Take-home Messages:** Self-controlled practice was the primary motivation for prolonging the retention of manual skills. In this study, the motivation of learning was not influenced by repeated examination. Repeated examination may be less stressful than one examination that consequently decrease attention on self-controlled practice.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KKo1 (3273)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### No evidence for differences in outcome between digital and paper-based course evaluations

#### AUTHOR(S):

- **Andrea Fast, UMC Utrecht, The Netherlands (Presenter)**
- Anne Oosterbaan, UMC Utrecht, The Netherlands
- Allard Van Ark, UMC Utrecht, The Netherlands
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- Marjo Wijnen Meijer, Technische Universitaet Munchen, Germany
- Eugène Custers, UMC Utrecht, The Netherlands

#### ABSTRACT

**Background:** Over the past decade, digital questionnaires have become the standard in course evaluation in the medical curriculum. Yet, digital questionnaires are associated with a persistently lower response rates, which may threaten the reliability of the outcomes. Reliability may be threatened by two factors: the shift from paper to digital evaluation per se, or by the timing of the evaluation request (in-class versus afterwards, by e-mail). The aim of this study is to assess whether the method of evaluation would systematically affect evaluation results.

**Summary of Work:** Courses at UMC Utrecht Medical School are evaluated by questionnaires in which students indicate (dis)satisfaction with several aspects of the course on Likert-scales. Evaluation of the first- and second-year communication skills and professional attitude training moved from paper questionnaires to digital questionnaires between the academic year 2015-16 and 2016-17, while the moment of completion stayed the same (during the last session of the course). Over the years, the training itself has remained stable, with only few changes in programme, teachers, and content. We compared the evaluation results of each training between 2014-15 and 2017-18.

**Summary of Results:** Mann-Whitney U-tests were performed between the responses on corresponding statements in the questionnaires of the four academic years. Response rates turned out to be comparable and no general trends could be observed between the “paper” years and the “digital” years. The significant differences that we did find were related to different editions of the training and were irreproducible over the years.

**Discussion and Conclusions:** Results indicate that the transition from paper questionnaires to digital questionnaires has no systematic effect on students’ appreciation of a course. In a future study, we will investigate possible differences in quality of students’ comments. In addition, we suggest a study to assess the effect of timing of digital evaluation on evaluation results and response rates.

**Take-home Messages:** A change from paper to digital evaluations, has no impact on the results.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KKo2 (1988)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### Professional Behavior and Medical Competencies from Graduates' Perspective: A Curriculum Evaluation

#### AUTHOR(S):

- Mia Kusmiati, Medical School Bandung Islamic University, Malaysia (Presenter)
- Noor Aini Abdul Hamid, International Medical School Management Science University, Malaysia
- Suhaila Sanip, University Sains Islam Malaysia, Malaysia
- Ova Emilia, Faculty of Medicine Gadjah Mada University, Indonesia
- Ieva B. Akbar, Medical School Bandung Islamic University, Malaysia

#### ABSTRACT

**Background:** Since the outcome-based education is growing up on medical education, performance of alumni will be core of expected achievement. Alumni is one of stakeholder in medical education has key role to contribute the evaluating curriculum. This study describes professional behavior and medical competency that were needed for practice as a curriculum evaluation

**Summary of Work:** The semi structure interviews have been conducted to 3 medical graduates of batch 2006, 2007, and 2008. The qualitative result found that there are some themes for developing professional behavior and competencies in the workplace. Themes for curriculum evaluation include suitability of competency with medical practice, communication ability, skills needed, professionalism enhancement, character of Moslem doctor, and assessing performance from others. From 6 themes was created 55 items of questionnaire about outcome of education. The 98 alumni were asked to fill out the questionnaire for exploratory factor analysis (the EFA) by using principle axis factoring of Varimax rotation with Kaiser Normalization.

**Summary of Results:** The 98 participants of medical graduates have completed the questionnaire. Fifty-four medical graduates and 44 clerkship students in final year yielded 38 items of questionnaire was valid and reliable. Items were obtained from conducting exploratory factor analysis. From these factor analysis, detailed perspective suggested that the most appropriate fit was 7 factors which explained 53.7% of the variance between them after 21 iterations with Cronbach's Alpha of 0.916. They comprise of 1). suitability of competency with medical practice, 2). communications skills, 3). skill needed on medical practice, 4). impact of educational process on professionalism enhancement, 5). characters of Moslem doctor, 6). performance assessment from others, and 7). intra-personal attribute expected.

**Discussion and Conclusions:** The tool has achieved a construct validity score. Some aspect professional behavior and medical competency from graduates' perspective identified have given novel contribution to evaluate curriculum in terms of educational outcome

**Take-home Messages:** Many challenging problems in the medical practice can be approached through professional behavior teaching. These can be nurtured during medical education program and its assessing was conducted continuous even after they had graduated.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK03 (2986)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Application of a Cognitive Diagnostic Assessment to Evaluate GI Physiology in a Reformed Foundational Science Curriculum

#### AUTHOR(S):

- **Jeremy Laukka, University of Toledo College of Medicine and Life Sciences, USA (Presenter)**
- Bindu Menon, University of Toledo College of Medicine and Life Sciences, USA
- Coral Matus, University of Toledo College of Medicine and Life Sciences, USA
- Kelly Kovacs, University of Toledo College of Medicine and Life Sciences, USA
- Youn Seon Lim, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, USA

#### ABSTRACT

**Background:** The need for scientific studies that assess innovative learning strategies is increasingly evident. We introduced an integrative learning strategy in the physiology course of our revamped medical school curriculum. The instructor assigned short e-learning modules (LMs) to the students in preparation of in-class sessions. The objective of this study was to evaluate the efficacy of this new pedagogy.

**Summary of Work:** We used a cognitive diagnostic assessment to analyze the performance of students in the exam. The course instructor identified six binary skills, one or more of which were marked to be necessary for answering each exam question. A non-parametric Q-matrix estimator was used to validate the question-by-skill Q matrix. The results helped us to determine the percentage of students who were successful in attaining these skills and to identify their mastery of the contents.

**Summary of Results:** We found that 82% of exam takers attained the skills necessary to answer questions drawn from the LMs only, compared to 53% from in-class sessions, and 63% by integrating content from both LMs and in-class. Only 28% of exam takers acquired complete mastery of the content. It was noteworthy that all students who attained mastery of skills from in-class sessions succeeded in attaining competency from LM content as well.

**Discussion and Conclusions:** Our study showed that more students acquired mastery of content from LMs compared to in-class sessions. However, only those students who mastered the contents of both in-class sessions and LMs were able to attain 100% mastery in the entire content. This study scientifically demonstrates the strength of e-technology as a learning enhancer when used as a facilitating feature integrated into the traditional lecture style classes. It also gives us an opportunity to identify the weaker aspects of our course. Further studies are ongoing to analyze if there is a correlation between the attendance of students in the in-class sessions and content mastery.

**Take-home Messages:** Studies which quantitatively analyze the curriculum based on student's performances and mastery provides great opportunity for instructors to identify the strengths and weakness of their courses. Vertical integration of such studies will provide an opportunity to continually assess the pedagogy and make necessary amendments as needed.



## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KKo4 (1734)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Implementation of Onsite-multisource Feedback of Medical Graduates in the Community Hospitals

#### AUTHOR(S):

- Amnuayporn Apiraksakorn, Khon Kaen Medical Education Centre, Thailand (Presenter)

#### ABSTRACT

**Background:** Following-up on medical graduates reflects the validity of the curriculum in a real-life setting. The onsite-multisource feedback provides valuable information. This study was to investigate our medical graduates' confidence in basic procedural skills, their learning needs, and performance. The assessment was done from interprofessional perspectives using multisource feedback.

**Summary of Work:** An interprofessional team of medical staff, nurses, educators, and medical students attended onsite-visits with 25 medical graduates at their community hospitals in the North-East part of Thailand. Self-administered questionnaires regarding their self-confidence on performing 46 basic procedural skills and learning needs were distributed. This was followed by individual interviews with graduates of the 2015 class. The survey was performed in 2017. We conducted an interview with hospital directors, physicians, nurses, pharmacists, and patients.

**Summary of Results:** Fifteen of the questionnaires were responded to by our graduates (60%), 40 of the medical staff (100%), 47 of the interprofessionals (100%), and 30 patients (100%). The graduates reported the most confident procedures were endotracheal intubation (93%), sutures (92%), and aspiration of the skin, subcutaneous tissue, and bursa (91%). The least confident procedures were umbilical vein catheterisation (48%), cervical biopsy (56%), and amniotomy (60%). The graduates felt they needed more training before graduation in: obstetric and gynaecological procedures; emergency care; and forensic medicine. They also felt they needed exposure to what their life would be like in a community hospital. The professionals suggested an expanded emphasis on medical ethics, communication skills, and team working in the medical curriculum. All patients felt satisfied with the graduates' medical services and provided good feedback on the graduates.

**Discussion and Conclusions:** During medical school, students should have more training in medical procedures for patient safety and quality assurance concerns. This training should continue through their internship. The medical school curriculum needs to be reformed to better prepare future rural doctors.

**Take-home Messages:** Interprofessional onsite visits and multisource feedback were good tools to evaluate needs and performances of new doctors in a community hospital.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK05 (3395)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level o

### Identifying and Tackling the Challenges of Collecting Feedback from Medical Students

#### AUTHOR(S):

- **Maria Constantinescu, Imperial College London, UK (Presenter)**
- Michel Abou-Abdallah, Imperial College London, UK
- Daniel Huddart, Imperial College London, UK
- Lasith Ranasinghe, Imperial College London, UK

#### ABSTRACT

**Background:** Imperial College London's Medical Education Society runs lecture series for all the academic years, covering key content for revision. These series have relied on student feedback to continuously improve our course's content. Nonetheless, collecting meaningful feedback remains a challenge. Student participation is inconsistent, and quality of feedback can vary greatly. This paper aims to analyse the rates of student participation in feedback during our Final Year Lecture Series, and the reasons for these fluctuations.

**Summary of Work:** Thirteen lectures were scheduled to cover the key concepts needed for final year exams over the academic year 2018-19. Each lecture included a link to the feedback form, as well as being shared via Social Media and email. Lecture slides were released once a satisfactory number of responses were reached as an incentive to drive feedback. The forms had five questions using Likert-type rating scale from 1 to 5; and three open ended questions. The rating scale assessed student overall satisfaction as well as appropriateness of level, pace and clarity of content. These were retrospectively analysed.

**Summary of Results:** 294 responses were gathered, with an average attendance of 50. There was a 68.3% decrease in responses after the first three lectures of the series. The highest number of responses were in the first three lectures of the series: Surgical abdomen (n=51), Orthopaedics (n=48) and Endocrinology (n=44). Our lowest rates of responses were in the second half of the series: Dermatology (n=6), Breast (n=10) and Ophthalmology (n=10). The overall satisfaction of students remained high throughout the lecture series, with level of content scoring on average 4.56 ( $\pm 0.10$ ), pacing 4.27 ( $\pm 0.13$ ) and clarity of content 4.52 ( $\pm 0.11$ ).

**Discussion and Conclusions:** The Final Year Lecture Series was received with an overwhelming positive response. However, feedback has been difficult to maintain. This phenomenon may be due to a reduction in number of attending students with increasing proximity to exams and a lack of incentive for final year students to complete feedback.

**Take-home Messages:** There is a need to develop new strategies to improve feedback participation from final year medical students, including improving accessibility to feedback and providing better incentives.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KKo6 (558)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring the undergraduate factors that influence how prepared newly qualified doctors feel when they begin work

#### AUTHOR(S):

- Alexander Hollis, UK Foundation Programme, UK (Presenter)
- Mathew Gittus, UK Foundation Programme, UK
- Oluseyi Adesalu, UK Foundation Programme, UK
- Clare Van Hamel, UK Foundation Programme, UK

#### ABSTRACT

**Background:** The UK Foundation programme undertakes an annual survey aimed at newly qualified foundation year one doctors (F1). We aim to investigate and explore areas of the undergraduate curriculum that help newly qualified doctors feel prepared when they start work.

**Summary of Work:** The induction survey was open to all F1 doctors starting work in the UK and completed by 962. They responded to a Likert scale question; 'To what extent you agree with the following statement: I was adequately prepared for my first foundation post'.

**Summary of Results:** Timing of finals had a significant impact on how prepared new FY1s felt with those who took exams in the summer just prior to starting FY1 twice as likely to report feeling unprepared (26%, n=103) than those who took their exams in the preceding Spring (12%, n=291), Winter (12%, n=291), Autumn (8%, n=323) or Summer (3%, n=89). Availability of simulation training showed those who strongly disagreed that they had access nine times more likely to say they felt unprepared (45.45%, n=33) those who strongly agreed they had regular simulation (5.38%, n=223). Those that strongly disagreed that they had the opportunity to do paid or voluntary work reported feeling significantly more unprepared (15.89%, n=448) who strongly agreed (3.86%, n=153) with the statement. Finally, those who spent less than 50% of their final year in an apprentice role felt three times less prepared (15.2%, n=694) than those who spent over 50% of their time as an apprentice (4.2%, n=263).

**Discussion and Conclusions:** Work based experience seems to positively increase feelings of preparedness. With respect to the timing of finals one potential explanation would be that sitting your finals in the summer before starting FY1 may mean that you actually spend less time in simulation, apprenticeship role or gaining work experience as you are preparing for the exams.

**Take-home Messages:** Exposure to the work place in particular simulation training is shown to have an important role in preparing undergraduates for the work place. The timing of final exams is an interesting point to come from this study and further work is needed to elucidate why having finals closer to starting FY1 can reduce feelings of preparedness.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KKo7 (3401)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Designing a Peer-Driven, Multi-Pronged, Curriculum-Based Preparatory Module for Medical School Examinations - Lessons from the 60 hour Agenda

#### AUTHOR(S):

- Oluwasegun Afolaranmi, College of Medicine, University of Ibadan, Nigeria (Presenter)
- Jesutofunmi Omiye, College of Medicine, University of Ibadan, Nigeria

#### ABSTRACT

**Background:** Progress in medical school is largely determined by success in professional examinations taken at different levels. In most Nigerian medical schools, these exams have an infamous reputation of high failure rates and significant emotional distress amongst students. Small group learning is an important method of preparation for these examinations, however this approach remains riddled with challenges. We designed the 60-hour Agenda, a peer-driven discussion module for a class in a Nigerian medical school.

**Summary of Work:** Essential information on knowledge and competency requirements for the examination were extracted from the curriculum and used to draft a schedule of activities that included personal study and group discussion meetings. The class was divided into six groups which were further divided into twelve subgroups of 9-10 students based on participation in similar rotations. Individuals who had particular preferences were allowed to join groups of their choice. Each subgroup selected a leader who coordinated group activities and shared responsibilities to enhance collaborative learning. A personalized reading guide was designed to run parallel with the group meetings so that members could bring challenges from their personal study to these meetings. A coordinating team comprising of subgroup leaders, group coordinators and program directors monitored progress and met to discuss challenges and improve the program based on feedback gotten from individual members. A mid-program analysis was conducted and results were relayed to the class via digital tools.

**Summary of Results:** The program attracted overwhelming positive feedback from students and faculty. In a post-program survey, 97% of respondents were satisfied and recommended continuation of the program for subsequent examinations. Besides aiding success, participants also reported improved interpersonal relationships, increased confidence and reduced anxiety towards the examination. The Agenda was also adopted as a template for junior classes to develop similar models

**Discussion and Conclusions:** Properly-designed, peer-driven, small group discussions remain a formidable tool for helping students face the rigorous training and examinations of medical schools.

**Take-home Messages:** • Emphasis should be laid on careful design, feedback, monitoring and evaluation to improve the effectiveness of small group learning methods. • Medical schools should consider incorporating such modules into curriculum where non-existing, and reimagining the approach where already existent.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KKo8 (2815)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Curriculum Evaluation for Master of Public Health (MPH) Assessed by Alumni of Guilan University of Medical Sciences

#### AUTHOR(S):

- Farzad Mohseni, Medical Education Research Center, Education Development Center, Guilan University of Medical Sciences, Iran (Presenter)
- Abtin Heydarzadeh, Medical Education Research Center, Education Development Center, Guilan University of Medical Sciences, Iran
- Ideh Dadgaran, Medical Education Research Center, Education Development Center, Guilan University of Medical Sciences, Iran
- Nafisehsadat Dadgaran, Guilan University of Medical Sciences, Rasht, Iran

#### ABSTRACT

**Background:** Master of Public Health (MPH) is a higher education program that aims to empower the family physicians practicing within the Iranian healthcare system. Duties of most physicians and healthcare providers are merely restricted to service provision. Family physicians, who take the critical responsibility of orchestrating the services and assume accountability towards the health of individuals, families, and the covered community, are the only group of physicians that exercise the supervisory function of the headquarters on peripheral scales. Evaluation highly influences the quality of higher education, and its results are used by educational authorities in decision-making. Since a few studies have been conducted on this subject in Iran, the present study aimed to present an evaluation the curriculum of MPH program by alumni of Guilan University of Medical Sciences.

**Summary of Work:** The present study was a cross-sectional evaluation. The required information was collected using a questionnaire consisting of items on demographics and evaluation of the educational process. The second part, adapted from the questionnaire developed by Nojoudi et al., consisted of 33 items on the curriculum organization, the program duration, the program execution, the program presentation, the program applicability, evaluation of the learners, and the curriculum required materials. The items were scored based on a 5-point Likert scale. Comments and views of participants were judged based on the mean scores and categorized as favorable, relatively favorable, and unfavorable. The study population consisted of all 158 GUMS alumni working as a family physician in 177 health centers in Guilan Province; they were selected as the sample based on the census sampling method.

**Summary of Results:** The results indicated that the participants evaluated different dimensions of the MPH program as follows: program duration: favorable (67.2%), and relatively favorable (31%); program presentation: relatively favorable (86.9%), and favorable (4.9%); program applicability: favorable (61.5%), and relatively favorable (32%); program execution: relatively favorable (88.5%), and favorable (4.5%); curriculum organization: relatively favorable (86.1%) and favorable (4.1%); and curriculum required materials: relatively favorable (45.9%), and favorable (6.6%).

**Discussion and Conclusions:** The result of the present study suggested that the MPH program has been educationally effective and relatively favorable.



## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK09 (264)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluation and learning: a professional combination for students and university

#### AUTHOR(S):

- Esther Tanck, Radboudumc, the Netherlands (Presenter)
- Nicole Samplers, Radboudumc, the Netherlands
- Yasmin Leenderts, Radboudumc, the Netherlands
- Michelle Jacobs, Radboudumc, the Netherlands
- Alwin Scharstuhl, Radboudumc, the Netherlands
- Petra van Gurp, Radboudumc, the Netherlands

#### ABSTRACT

**Background:** After extensive revision of the curricula Medicine and Biomedical Sciences, evaluation of the quality of education is essential. The students' role to provide feedback is important. In this study we discuss a newly developed evaluation procedure that was embedded as a learning activity for 1200 students in the line Professionalism, where respectfully giving your opinion and feedback are learning objectives.

**Summary of Work:** During group meetings (nine students plus teacher), scheduled in the line Professionalism, students digitally filled in five closed questions and one open question about a coherent part of the curriculum program. After a group discussion, narrative feedback to the open question, including suggestions for improvements, was formulated. Reports with summarized data of all groups were given to the program coordinators who subsequently provided the students with feedback, including actions that would be implemented. After several evaluation cycles, we evaluated and optimized this new evaluation procedure.

**Summary of Results:** In 2017-2018, we completed 12 evaluation cycles with a closed feedback loop covering the whole curriculum. The participation of the groups was on average 53% (range 36%-74%). The program coordinators valued the data and feedback from the students and were highly motivated to give them written feedback and implement actions, such as adapting the course schedule and content. Students indicated that it was instructive to formulate narrative feedback and that giving feedback to the program coordinators is important. To optimize the evaluation procedure, the purpose of the learning activity for both students and program coordinators was explicitly communicated and the questionnaires and feedback from the coordinators are now a recurrent part of the agenda of group meetings in the line Professionalism. In addition, one easy-to-find location on our digital-learning-environment was created for the whole evaluation cycle.

**Discussion and Conclusions:** The new evaluation procedure led to advantages for both program coordinators and students: 1) students practiced with formulating narrative feedback; 2) students recognized the importance of feedback; 3) the program coordinators received valuable feedback from students and implemented actions accordingly.

**Take-home Messages:** Evaluation integrated in the learning program is a successful method to learn in reciprocity.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK10 (2248)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Internet-based Measurement of Visual Assessment Skill of Trainee Radiologists: Developing a Sensitive Tool

#### AUTHOR(S):

- **Nadiah Fernandes, Chelsea and Westminster Hospital, UK (Presenter)**
- Amaka Offiah, Sheffield Childrens Hospital, UK
- Martin Thirkettle, Sheffield Hallam University, UK
- Mandela Thyoka, Sheffield Teaching Hospitals, UK
- Padmini Gopalan, Sheffield Teaching Hospitals, UK
- Tom Stafford, University of Sheffield, UK

#### ABSTRACT

**Background:** Expert radiologists exhibit high levels of visual diagnostic accuracy from review of radiological images. To train new radiologists, learning interventions must focus on the development of these skills. By developing a web-based measure of image assessment we aimed to capture differences in the performance of expert, trainee and non-radiologists.

**Summary of Work:** Twelve consultant paediatric radiologists, twelve radiology registrars, and thirty-nine medical students were recruited. Participants completed an online task requiring them to assess 30 images randomly drawn from a library of 150 paediatric skeletal radiographs. Participants identified whether an image contained an abnormality, and then clicked within the image to mark its location. Performance measures of identification accuracy, localisation precision, and task time were collected.

**Summary of Results:** Significant results were taken as those with  $p < 0.001$ . D prime for each group was calculated to combine specificity and sensitivity and used as a measure of identification accuracy. This measure showed that all comparisons were significant apart from the sensitivity comparison between consultants and registrars. With regards to localising the abnormality, students were significantly less accurate than consultants and registrars, while consultants and registrars were not significantly different from each other. Lastly, testing showed the consultants were significantly slower than both registrars and students.

**Discussion and Conclusions:** Consultant radiologists were found to be the most accurate both at identifying images containing abnormalities and at localising abnormalities on the images. One unusual result was the finding that consultant radiologists performed this task significantly slower than novice participants. This contradicts previous research findings but may simply be due to the open nature of our task which left the participants free to perform the task at different levels of meticulousness.

**Take-home Messages:** Our data demonstrate that an online measurement of radiological skill is sufficiently sensitive to detect group level changes in performance consistent with the development of expertise. This developed tool will allow future studies assessing the impact of different training strategies on cognitive performance and diagnostic accuracy. The next step in this project is to use the library of validated radiographs in longitudinal studies of cohorts and to add eye tracking experiments to examine changes in participants' search strategies with increasing experience.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK11 (1323)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What affects students' appraisal of clinical teaching?

#### AUTHOR(S):

- Li-Ting Wang, School of Medicine, Mackay Medical College, Taiwan (Presenter)
- Yang-Sheng Lin, Department of Medical Education, MacKay Medical Hospital, Taiwan
- Kung-Pei Tang, Department of Education and Humanities in Medicine, School of Medicine, Taipei Medical University
- Po-Fang Tsai, Graduate Institute of Humanities in Medicine, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** Assessments of students studying satisfaction are common for medical education. However, medical teachers question about the reliability of the survey results. One concern is that the interviewees could give negative feedbacks by processing their own negative self-perception in terms of projection. This study aims at investigating whether student's social and academic self-perception have effects on their appraisal of clinical teaching. The measurement instrument is Dundee Ready Education Environment Measure (DREEM) questionnaire, comprising five dimensions: student's perception of teaching (SPT), student's perception of learning (SPL), student's perception of atmosphere (SPA), social self-perception (SSP), and self academic perception (SAP).

**Summary of Work:** 75 seventh grade medical students in Mackay Memorial Hospital participated in this study. They fulfilled DREEM questionnaire according to their clinical training experiences in fall 2018. Hierarchical multiple regression (HMR) analysis includes two sequential regression models performed to examine the relationships of SPL, SPA, SSP, and SAP to SPT. Model I included SSP and SAP as research variables, then SPL and SPA as control variables were included in Model II. Model comparison was conducted to determine the effects of SPL, SPA, SSP, and SAP.

**Summary of Results:** Although Model I ( $p < .001$ ,  $R^2 = .45$ ) and Model II ( $p < .001$ ,  $R^2 = .61$ ) had significant explanatory powers, the change of F-sig ( $p < .001$ ) showed Model II is better. In Model II, SPL and SPA had significant effects, but SSP didn't have a significant effect as it had performed in Model I. The model comparison showed SSP's effect on SPT may be mediated by SPL and SPA (proportion mediated = 89.8%) but the most important predictor of SPT was SSP.

**Discussion and Conclusions:** Unlike the academic self-perception, the social self-perception of students has significant effect on their appraisal of clinical teaching, but failed to keep its significant level when the perception of learning and atmosphere were included in the regression model. Students' perception of interpersonal interaction and clinical teaching may be mediated by their perception of learning and atmosphere.

**Take-home Messages:** Interpersonal relationship is correlated to students' impression of the teaching program under the influence of their perception of learning and atmosphere.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK12 (2570)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring the learning environment: invisible forces influence the students' learning strategies

#### AUTHOR(S):

- Eleonora Leopardi, University of Newcastle, Australia (Presenter)
- Robbert Duvivier, School of Health Professions Education, Maastricht University, The Netherlands
- Caragh Brosnan, University of Newcastle, Australia
- Martin Veysey, Hull-York Medical School, University of York, UK

#### ABSTRACT

**Background:** Introducing the hidden curriculum theory in medical education, Hafferty described a learning environment composed of overlapping curricula: the formal curriculum, the informal curriculum, and the hidden curriculum. The theory describes how professionalism and humanism are often antagonised by the hidden curriculum. However, few studies have looked at the content of the informal and the hidden curriculum on the students' learning strategies. Additionally, the interactions between the curricula in the learning environment remain unexplored.

**Summary of Work:** A multi-sited comparative ethnographic study was conducted in the context of a joint medical program delivered at two medical schools. Over a 14-month field immersion, four research methods (observation, interview, focus group, document analysis) were used to study the learning environment and the learning strategies of students in the campus-based years.

**Summary of Results:** The multi-sited ethnography yielded a vast amount of data, which was analysed qualitatively. The delivery of the same program at two different institutions allows the influence of the informal and hidden curriculum to be considered separately from the formal curriculum, which is the same in both places. These other-than-formal curricula exert significant influence over the students' learning strategies.

**Discussion and Conclusions:** In spite of the emphasis placed on self-directed learning in the formal curriculum, the informal and hidden curriculum play a conspicuous role in how students choose to learn, resulting in homogeneous learning strategies: students, who are placed in the same environment, will adopt the same learning strategies rather than develop their own, as a result of the invisible influences they are subject to. In addition to this, the curricula influence each other, creating a unique learning environment at each location. The informal curriculum verbalises and transmits the messages of the hidden curriculum, while the hidden curriculum creates the conditions for informal exchanges to happen, for instance through the timetabling or the building structure.

**Take-home Messages:** The learning environment is permeated by influences that interact with each other and with the students. To support the students' development of effective learning strategies, medical educators must discover the extent and content of the informal and hidden curricula influences in their learning environment.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK13 (2827)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Assessment of the educational environment in Medical Schools in Morocco: The Students' perspective

#### AUTHOR(S):

- **Maryam Fourtassi, Université Mohamed Premier, Morocco (Presenter)**
- Maher Imad Skakia, Université Mohamed Premier, Morocco
- Ayoub Kharkhach, Université Mohamed Premier, Morocco
- Ghita Hjej, Université Mohamed Premier, Morocco
- Naima Abda, Laboratory of Epidemiology Clinical Research and Public Health, Université Mohamed Premier, Morocco

#### ABSTRACT

**Background:** The educational environment represents one of the key elements of learning and reflects the quality of the educational process. Its regular assessment is part of the recommendations of the international academic authorities for any training institution willing to improve its services and the performance of its students. The current study aimed to assess the educational environment in Moroccan Medical Schools, from the students perspective and to identify factors associated to a poorer assessment of this environment.

**Summary of Work:** We conducted a large survey to assess students perception of their educational environment using the DREEM scale. Students from the seven public medical schools in Morocco were asked to complete an online questionnaire collecting demographics, academic and psychological data in addition to the DREEM scale items.

**Summary of Results:** 2515 responses were collected from students in different levels of studies. The average total DREEM score was 90.5 +/- 23.6 with significantly higher values in the most recent medical schools (Agadir and Tangier) and much lower scores in the older medical schools (Rabat and Casablanca). This total score, as well as the the different sub-scores were significantly higher among male students (p: 0.001), foreign students (p: 0.01), students in the second term of medical studies (p: 0.0001), students with the least academic difficulty (p: 0.0001) and among students who suffered less psychological stress (p: 0.0001).

**Discussion and Conclusions:** Our results had objectified, major problems of the educational system in the different explored areas, ranking Moroccan medical schools at the bottom of the scale compared to other African countries, such as Nigeria, and South Africa. Thus, it seems necessary and urgent to address the issues raised by the above results to ensure our young students optimal medical training, and to our fellow citizens the doctors of tomorrow who can offer us the best care.

**Take-home Messages:** (1) Moroccan medical students perceive their educational environment as below average, when using the DREEM Scale. (2) The situation is broadly similar in all Public Medical Schools with a slightly better score in the most recent Schools. (3) This poor perception of the educational environment is significantly associated to students' gender, origin, study level, academic performance and psychological distress.



## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK14 (2360)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Teacher is a Key Success Factor for Pre-Medical Learning in Newly Established Medical School, Princess of Naradhiwas University

#### AUTHOR(S):

- Aornrutai Promsong, Faculty of Medicine, Princess of Naradhiwas University, Thailand (Presenter)
- Taksin Ukkahad, Faculty of Medicine, Princess of Naradhiwas University, Thailand
- Yaowalark Sukthana, Faculty of Medicine, PNU and Faculty of Tropical Medicine, Mahidol University, Thailand
- Wutthipong Suwannit, Faculty of Medicine, Princess of Naradhiwas University, Thailand
- Chumpol Piamsomboon, Faculty of Medicine, Princess of Naradhiwas University, Thailand

#### ABSTRACT

**Background:** Perception of pre-medical students on educational environments was studied in order to use as an input for improvement of the educational achievement.

**Summary of Work:** The Thai version of DREEM questionnaires was assessed by a total of 81 first-to-third-year medical students, Princess of Naradhiwas University (PNU). The average total DREEM score and a mean score of each 5 subscales were analyzed and ranked, thus, areas for improvement could be identified. T-test and one-way ANOVA were used to compare total score and subscales of DREEM between two and more than two variables.

**Summary of Results:** The total DREEM score indicated the educational environments in PNU's medical school was more positive than negative ( $\bar{x}=123.60\pm17.44$ ). Considering DREEM subscales score, there was none reached  $\geq 3.5$  which demonstrated a real positive item. Majority of subscales (43 out of 50) score in the present study were ranged from 2.0-3.5 suggested those items could be enhanced for improvement. The PNU's medical school must be more closely looked in 7 problematic areas that showed average score lower than 2. Of which, 5 were in student's perception of learning and others were in student's perception of atmosphere and social self-perception. Those items included the teaching over-emphasized factual learning ( $\bar{x}=1.40\pm0.75$ ), the course was well timetabled ( $\bar{x}=1.62\pm1.15$ ), I was too tired to enjoy the course ( $\bar{x}=1.80\pm1.09$ ), the teaching time was put to good use ( $\bar{x}=1.83\pm1.03$ ), teaching was too teacher-centered ( $\bar{x}=1.89\pm0.88$ ), teaching was student-centered ( $\bar{x}=1.91\pm0.84$ ) and teaching was well-focused ( $\bar{x}=1.95\pm0.88$ ). The second-year medical students showed less positive to overall educational environments than the 1st- and the 3rd-year regarding academic self-perception ( $F(2,78)=3.339$ , p-value =0.041), atmosphere ( $F(2,78)=16.636$ , p-value <0.001) and social self-perception ( $F(2,78)=3.595$ , p-value =0.032).

**Discussion and Conclusions:** Teacher is a vital factor to improve learning achievement of the PNU's pre-medical students. Focus on student's needs and make more student-friendly in class could enhance the teaching and learning system.

**Take-home Messages:** The PNU's medical school must be more closely looked in 7 problematic areas that showed average score lower than 2. Of which, 5 were in student's perception of learning and others were in student's perception of atmosphere and social self-perception.

## #8KK Posters - Curriculum Evaluation/Learning Environment

### 8KK15 (1332)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Comparing students' perception on clinical learning environments between Taiwan and Indonesia

#### AUTHOR(S):

- Yang-Sheng Lin, Department of Medical Education, MacKay Medical Hospital, Taiwan (Presenter)
- Li-Ting Wang, School of Medicine, Mackay Medical College, Taiwan
- Po-Fang Tsai, Graduate Institute of Humanities in Medicine, Taipei Medical University, Taiwan
- Kung-Pei Tang, Department of Education and Humanities in Medicine, School of Medicine, Taipei Medical University, Taiwan
- Rahmi Cut Rizka, Department of Education and Humanities in Medicine, School of Medicine, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** The quality of educational environment is a key element that determines the learning effectiveness. Dundee Ready Education Environment Measure (DREEM)-a 50-item questionnaire composed of five dimensions including SPT(Student Perception of Teaching), SSP(Social Self Perception), SPL(Student Perception of Learning), SPA(Student Perception of Atmosphere), and SAP(Self Academic Perception)-is widely used for assessment of medical students perception of learning environment. This study aims at comparing students' perception on learning environments between Taiwan and Indonesia.

**Summary of Work:** DREEM was conducted to 75 Taiwanese seventh grade medical student in Mackay Memorial Hospital and 92 Indonesian fourth grade medical student in medical department of Syiah Kuala University in 2018. We used descriptive statistics and independent sample t-test for comparative analysis.

**Summary of Results:** There was a significant difference in the mean score between Indonesia and Taiwan group in all five dimensions: SPT(M=2.826, SD=0.436/ M=3.570, SD=0.387; t=-11.514, p<0.001), SPL(M=2.637, SD=0.364/ M=3.857, SD=0.411; t=-20.300, p<0.001), SPA(M=2.615, SD=0.395/ M=3.642, SD=0.399; t=-16.620, p<0.001), SAP(M=2.869, SD=0.364/ M=3.616, SD=0.564; t=-10.325, p<0.001) and SSP(M=2.602, SD=0.363/ M=3.982, SD=0.601; t=-18.279, p<0.001). While Taiwan group has higher average score than Indonesia group in five dimensions of DREEM, there are different ranking-orders in the two groups respectively. In Indonesia group, "SAP"(2.87) rated highest and "SSP"(2.6) rated lowest, but in Taiwan group the average score was highest in "SSP"(3.9), and lowest in "SPT"(3.5).

**Discussion and Conclusions:** With the between-group comparison, there was a significant difference in the mean score between two countries in all five dimensions of DREEM, suggesting the students' perception on learning environment in Taiwan group is overall higher than that in Indonesia group. Based on this difference, when we dug into the within-group comparison, the ranking-orders showed a deeper difference. In Indonesia group, students are satisfied with their academic performance, while interpersonal communication in class needs improvement; in Taiwan group, students claimed there is good interpersonal communication, and there is room for improvement in teaching.

**Take-home Messages:** In terms of both between-group and within-group comparisons, students' perception on learning environment varies from different countries, not only differing in the overall DREEM but also appearing respective ranking-order among five dimensions of DREEM.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL01 (1279)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Gender differences in medical students' motivation to attend medical school

#### AUTHOR(S):

- Isabel Fonseca, Institute for the Biomedical Sciences Abel Salazar and Centro Hospitalar University of Porto, Portugal (Presenter)
- Joana Martins, Institute of Biomedical Sciences Abel Salazar, University of Porto, Portugal
- Daniela Gomes, Institute of Biomedical Sciences Abel Salazar, University of Porto, Portugal
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#### ABSTRACT

**Background:** Women presently constitute a majority of the medical students in most western societies. With the increasing number of female medical students it is opportune to ask whether the motivations for studying medicine differ between men and women. The purpose of this study was to assess gender differences in motives for choosing medicine and pursuing a medical career.

**Summary of Work:** First, third and fourth-year medical students from a Portuguese public medical school completed a questionnaire in 2017/2018 that assessed their motivations for studying medicine. Students were asked, from a given list, which factors influenced their course choice. Twelve motives were specified, and then grouped into three most commonly cited motivational factors (financial/societal; humanitarian and scientific). Data was analyzed using various descriptive and inferential statistics.

**Summary of Results:** In total, 341 students returned the questionnaire (63% response rate). In the first year the response rate was 97% (n=135), 56% in the third year (n=115), and 47% in the sixth year (n=91). Most of responders were female (75%). The willingness of providing care and treat sick people was the motivation more chosen by female students (33%), followed by the interest in medicine as a subject matter (30%). These two items were also the most chosen by the male students but in reverse order (medicine fitted the interests of 34% male students and 21% choose providing care and treat patients). Male more frequently mentioned financial motives to choose medicine (23% vs. 15%), though not statistically significant. Humanitarian motive was more chosen by female students (46% vs. 33%,  $P=0.048$ ).

**Discussion and Conclusions:** There seems to be a gender aspect to motivation for going to study medicine. Fewer women than men considered financial and societal factors in choosing their course choice. Altruistic and humanitarian reasons seem to be the main reason motivating female patients for medicine while the scientific nature of medicine is the most reported reason for men.

**Take-home Messages:** Altruistic and humanitarian reasons seem to be the main reason motivating female patients for medicine while the scientific nature of medicine is the most reported reason for men.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL02 (3064)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Study motivation and learning among first- to third-year students at Finnish universities: How do medical and dental students differ from other students?

#### AUTHOR(S):

- Lena Sjöberg, University of Helsinki, Faculty of Medicine, Finland (Presenter)
- Monica Londen, University of Helsinki, Swedish School of Social Science, Finland
- Jan-Erik Mansikka, University of Helsinki, Faculty of Educational Sciences, Finland

#### ABSTRACT

**Background:** The objective of this study is to examine study motivation, learning preferences and academic integration of Finnish students during their first three years at university.

**Summary of Work:** Web-based surveys were administered to all Swedish-speaking students from ten different study programs who started their university studies in 2014, among them the students of the Faculty of Medicine at the University of Helsinki. The four surveys during the first three study years focus on study motivation, academic integration and factors influencing learning. All surveys include both multiple choice and open-ended questions.

**Summary of Results:** All students at the Faculty of Medicine considered themselves motivated or strongly motivated for their studies; the difference compared to other students was statistically significant in all surveys. The medical and dental students differed from other students in their learning preferences: group discussions, independent reading, case examples, practical training of skills, study visits and written examinations were more popular than among students in other faculties, but on the other hand, lectures or learning diaries were not highly appreciated. The medical students highly valued the social environment of their studies and also considered their student organization very important for their academic integration, to a significantly higher degree than other students. During the third study year, all the above mentioned were still characteristic for the medical and dental students and furthermore, their expectations from study year one had been met to a significantly higher degree than those of other students. On the other hand, the medical students were not more confident than other students in self-reflection or critical thinking and had not developed their understanding of cultural diversity more than others.

**Discussion and Conclusions:** The high degree of study motivation of the medical and dental students persisted at least through the first three study years, as did their learning preferences and their appreciation of the study environment.

**Take-home Messages:** Our students have a high degree of motivation and they value their study environment. We could do more to increase their ability of self-reflection and critical thinking.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL03 (1340)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Students' Motivation and Its Associated Factors

#### AUTHOR(S):

- Kannika Tasasungkhin, Medical Education center at Sawanpracharuk Hospital, Nakhonsawan, Thailand (Presenter)
- Tinakon Wongpakaran, Department of Psychiatry, Chiang Mai University, Thailand
- Nahathai Wongpakaran, Department of Psychiatry, Chiang Mai University, Thailand
- Wanida Lowphrukmanee, Department of Anaesthesia, Thailand
- Darika Thanbuasawan, Sawanpracharuk, Medical Education Center, Thailand
- Kanoklak Sirirungwatthanakul, Department of Psychiatry, Thailand

#### ABSTRACT

**Background:** Motivation is among factors that could influence people's decisions to become a doctor. According to self-determination theory, intrinsic motivation reflects the human propensity to learn and assimilate, while extrinsic motivation results from external control or true self-regulation. Lack of motivation could affect the path to become a doctor. This study explored motivation in studying medicine and its associated factors in Thai medical students.

**Summary of Work:** An observational study was conducted among 168 first to sixth-year medical students at a Medical Education Center in Central Thailand from December 2018 to January 2019, using academic motivation scale, strength base inventory, multidimensional scale for perceived social support and depression inventory.

**Summary of Results:** The mean age of the sample was  $21.33 \pm 1.69$ , and 51.8 % were females. The majority was the third-year students (20.23%). The first-year students were the most highly motivated ( $127 \pm 27.83$ ), while the fifth-year students were the least ( $114.66 \pm 32.63$ ). There was a small disparity between the share of the most highly amotivated in the fourth and the fifth-year students ( $13.64 \pm 6.42$  and  $13.62 \pm 5.63$ , respectively). Lack of motivation included physical exhaustion, inadequate sleep, insecurity, initial dispassion and concerns of legal issues. Perceived family support was the most influential factor for motivation ( $r=0.37$ ,  $P<0.001$ ), followed by perceived friend support ( $r=0.30$ ,  $P<0.001$ ), and positive attribute of determination ( $r=0.26$ ,  $P=0.001$ ). The three factors were also related to extrinsic motivation ( $r=0.32$  ( $P<0.001$ ),  $0.28$  ( $P<0.001$ ), and  $0.20$  ( $P<0.009$ ), respectively. Depression, years of education, and age were associated with amotivation,  $r$ 's =  $0.52$ ,  $0.256$ , and  $0.248$ , and  $P$ 's =  $0.001$ , all). The higher year and older age, the higher amotivation.

**Discussion and Conclusions:** Factors associated students' motivation in studying medicine included perceived support from family and friends, and positive attribute of determination. Amotivation was related to depression and year of study.

**Take-home Messages:** Many factors could affect students' motivation in studying medicine. Perceived support from families and friends should be considered in enhancing the students' motivation. Further investigation in a larger sample size regarding the association between the students' motivation and academic performance should be explored.



## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL04 (1660)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Motivational profile and learning strategies in medical students: a two year follow up. Universidad Andrés Bello, Viña del Mar, Chile

#### AUTHOR(S):

- **Veronica Silva, Universidad Andres Bello Viña Del Mar Chile, Chile (Presenter)**
- Nikos Mac Millan, Universidad Andres Bello Viña Del Mar Chile, Chile
- Nazira Abde, Universidad Andres Bello Viña Del Mar Chile, Chile
- Carolina Alvarez, Universidad Andres Bello Viña Del Mar Chile, Chile
- Ignacio Fernandez, Universidad Andres Bello Viña Del Mar Chile, Chile
- Carolina Solis, Universidad Andres Bello Viña Del Mar Chile, Chile

#### ABSTRACT

**Background:** Motivation and learning strategies are two important areas to achieve a significant learning experience. The objective was to compare the motivational profile and learning strategies scores for medical students during a 2 year follow up.

**Summary of Work:** A cohort study with 33 students (60.6% females), from the two first year's of medical school was performed. Informed consent obtained. The Motivated Strategies for Learning Questionnaire (MSLQ), which measures intrinsic (IM) and extrinsic (EM)) motivation and learning strategies (LS), was applied for baseline data, and follow up at the beginning of the next year. Cronbach Alpha, Pearson Correlation, t Student, were used for statistical analysis.

**Summary of Results:** Regarding motivation, only females showed meaningful decreases  $p < 0.05$ . Learning strategies showed a significant decrease in both sexes especially the variable resource management,  $p < 0.05$ . There is a positive correlation between motivation and learning strategies both years, however valuation in motivation, had a meaningful influence on learning strategies. There is a meaningful and positive correlation of valuation, with expectations, cognitive and metacognitive strategies and resource management.

**Discussion and Conclusions:** Learning depends on motivation, and tends to decline for both genders. The significance found in women, may be due to the greater proportion of them in the sample. Learning strategies decrease globally as courses advance, which can be explained by learning process increasing complexity. Students seem to mismanage the resources given, as this is related to the tendency to close in on oneself and not ask for help.

**Take-home Messages:** It is suggested to encourage strategies that increase the motivation of students, through direct contact with patients early in the curricula and improve academic support to help the students learn to manage their learning resources.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL05 (2611)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### “Strength of motivation” impact on medical students’ learning approaches: Results of a multisite cross-sectional study

#### AUTHOR(S):

- Milena Abbiati, UDREM - Faculty of Medicine, Geneva, Switzerland (Presenter)
- Anne Baroffio, UDREM - Faculty of Medicine, Geneva, Switzerland
- Thierry Pelaccia, CFRPS, France

#### ABSTRACT

**Background:** Promoting a deep approach to learning is a huge challenge in medical education. Over the last decade, research has highlighted the importance of motivation in training, with higher levels of student motivation predicting among other mobilization of effective learning approaches. Because students ‘motivation is a major indicator of learning behaviors, there is a strong need of consistent and easy-to-use instruments to assess it. Among the instruments commonly used in medical education, most are designed to assess the type of motivation. In addition, the “Strength of Motivation for Medical School-Revised (SMMS-R)” scale assesses the overall “Strength of Motivation”, but little is known about whether and how it predicts learning approaches in medical students.

**Summary of Work:** The present study examines whether “Strength of Motivation” predicts learning approaches in medical students. To this end, we (1) verified the three-factor structure -Willingness to Sacrifice, Readiness to Start and Persistence subscales- of the SMMS-R and (2) determined the SMMS-R’s predictive validity for deep and surface learning approaches. Our sample comprised 372 students at three French-speaking medical schools, who completed the SMMS-R and the Revised two-factor Study Process Questionnaire (R2-SPQ). We used: (a) principal component analyses (PCA) to aggregate the 15 SMMS-R items and (b) linear regression analyses to determine whether SMMS-R (total and 3 subscales) predicted learning approaches.

**Summary of Results:** Results confirmed the three-factor structure of the SMMS-R questionnaire (KMO .88,  $p < .001$ , 44% of variance explained). Both Total Strength of Motivation and Readiness to Start positively predicted students’ use of deep approaches ( $\beta = .28$ ,  $\beta = .27$ , respectively;  $p < .001$ ) and negatively surface approaches ( $\beta = -.22$ ,  $\beta = -.30$ , respectively;  $p < .001$ ). Willingness to Sacrifice positively predicted deep approaches and Persistence negatively predicted surface approaches ( $\beta = .44$ ,  $\beta = -.30$ , respectively;  $p < .001$ ).

**Discussion and Conclusions:** Our results both support SMMS-R’s suitability as a tool for measuring medical students’ strength of motivation, and suggest that strengthening motivation, an inherently dynamic parameter, could be a way of fostering a deep learning approach and thereby improving academic performance.

**Take-home Messages:** Our findings confirm the impact of motivation on learning approaches and pave the way for developing new educational interventions aimed at strengthening motivation.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL06 (2945)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Reflections of First Year Medical Students

#### AUTHOR(S):

- **Bulan Hermasari, Medical Education Unit Faculty of Medicine Universitas Sebelas Maret, Indonesia (Presenter)**
- Amandha Randita, Medical Education Unit Faculty of Medicine Universitas Sebelas Maret, Indonesia

#### ABSTRACT

**Background:** Being a medical student is an important event for first year students. There are many changes to the learning system from high school to university, which is a challenge because it requires an adaptation process for first-year students. Reflection can be used to encourage student learning as well as to evaluate it. The purpose of this study was to find out how is the content of first-year medical students reflection.

**Summary of Work:** Qualitative research has been carried out with a phenomenology approach. The sample was 50 students reflective essays that were randomly selected from a total of 230 students essays. Data analysis used content analysis techniques. The analysis has been carried out by 2 coders who are masters in medical and health professional education.

**Summary of Results:** There are 3 themes, namely knowledge, skills, and attitudes. On the theme of knowledge, students have learned about basic medical sciences such as anatomy, histology, and physiology. In addition, students feel they are aware of the ethics, roles, and responsibilities of a doctor. On the theme of skills, respondents felt that learning in medicine needed better time management skills and learning approaches because of the heavy learning content. In addition, students also learn how to communicate with simulated patients and lecturers well. In the theme of attitude, students feel encouraged to adopt a good attitude when interacting with simulated patients such as how the attitude of a real doctor. However, students feel that the process of becoming a doctor is very challenging so they want to get more frequent and more constructive feedback on each learning and assessment activity.

**Discussion and Conclusions:** Learning in medical faculties is relatively heavy for students so it requires a better effort from students and also supports from the faculty. Feedback is central to medical education in promoting learning and ensuring that standards are met. Increased student feedback and guidance about progress throughout the year may support the process of adaptation of first-year medical students.

**Take-home Messages:** We feel that providing students regular feedback about their learning and assessment results will be valuable to their development as medical students.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL07 (1128)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What Changes with Failure? A Narrative Analysis

#### AUTHOR(S):

- Geerthana Sundaram, Barts and the London, UK (Presenter)
- Esther Murray, Barts and the London, UK

#### ABSTRACT

**Background:** Failure is defined as “the fact of someone not succeeding”, “the fact of something not working” and “the fact of not doing something that you are expected to do”. All these definitions use the word ‘fact’ as if failure is proof, a positivist viewpoint. Kleinman (1988) said in his book “social reality is so organised that we do not routinely inquire in the meanings”. There is a lack of research looking into failure. Within the research that is available, the studies are emphasised on problem-solving solutions to the event of failure. There is limited research looking at the emotional and psychological aspects of failure in medical education. The purpose of my study is to explore failure through the eyes of students.

**Summary of Work:** This is a qualitative study to explore failure experienced by students through storytelling. Narrative analysis allows us to see how the student makes sense of the experience of failure through their psychologically constructed stories. Six medical students who had previously failed participated in an unstructured interview centred around one event of failure. Prior to this interview, the students produced a timeline mapping out experiences of failure in their life; an opportunity to edit and polish their story. This was desired as for whether the story is ‘true’ is irrelevant.

**Summary of Results:** The data collected will be analysed using Labov’s model created in 1972 to guide my analysis. This framework allows for analysing the participant’s meaning of failure by focusing on the structure and organisation of their story. Therefore, exploring how failure has affected the student and the changes that take place in their personal and professional lives.

**Discussion and Conclusions:** From this study, I hope to start the conversation on what it means to fail. Failure is something that many people experience but few discuss openly especially whilst going through it themselves. To change the medical culture, discussions need to be had. Normalising and removing the stigma within the medical school could be the initial stepping stone. How have you changed due to your failures?

**Take-home Messages:** I want to encourage students to look within and discover what failure means to themselves before seeking remediation.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LLO8 (1639)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Focused Clinical Undergraduate Support (FOCUS) programme: Facilitating medical students through exam failure

#### AUTHOR(S):

- Charlotte Brathwaite Shirley, Lewisham and Greenwich NHS Trust, UK (Presenter)
- Ashling Hill, East Kent Hospitals University NHS Foundation Trust, UK
- Natalie Howard, Guys and St Thomas NHS foundation Trust, UK
- Nabila Siddiqui, Croydon University Hospital NHS Trust, UK
- Nitin Shrotri, Kings College University Hospital NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Failing a medical school examination can be a devastating period in a student's education. Studies show that students who have failed an exam during medical school are more likely to struggle in clinical practice as doctors. We found that students retaking exams often lacked support and confidence.

**Summary of Work:** Focused Clinical Undergraduate Support (FOCUS) was developed by junior doctors and consultant undergraduate leads. Medical students who had failed and were repeating their 4th year were invited to enrol on FOCUS. Each student was allocated a mentor, a junior doctor at the trust local to the student. There was an introductory meeting discussing the mentees personal concerns from which a individual revision plan would be developed. After which, mentees and mentors met as required. Mentees attended a revision day for exam technique and revision skills. Students completed pre and post programme confidence ranking scores on; self study skills, clinical skills, medical knowledge, exam technique, exam preparation and awareness.

**Summary of Results:** 10 out of 13 students engaged with FOCUS. 100% of students within the programme passed their exam. When asked about confidence in self study there was an increase of 25.9% with post programme scores showing an average of 3.4/5 compared to 2.7/5; based on a scale of 1-5 with 1 being not confident and 5 extremely confident. Confidence in their medical knowledge rose by 41.6% with score averages rising to 3.4/5 from 2.4/5. Confidence in exam technique rose by 36% with average rankings increasing to 3.4/5 from 2.5/5.

**Discussion and Conclusions:** The FOCUS programme successfully demonstrated the benefits of personalised support for struggling students. In particular how focusing on improving student's exam and study technique, results in greater confidence. Students felt less ostracised being among others in a similar situation. After its first year, FOCUS has expanded to other year groups and sites across London.

**Take-home Messages:** (1) Failing students should be seen as an opportunity to re-examine revision technique and provide skills that can be applied beyond medical school. (2) A dedicated peer support programme improves students' confidence.



## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL09 (1922)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The help-seeking intention among medical and health sciences students

#### AUTHOR(S):

- Yu Sui Chen, International Medical University, Malaysia (Presenter)
- Nicole Chen, International Medical University, Malaysia
- Eliza Wong, Ramsay Sime Darby Healthcare College, Malaysia

#### ABSTRACT

**Background:** Help-seeking intention reflects as actual behaviour that is most likely used by people to seek help. Studies revealed that less than 50% of students showed seeking-help intention and more so for students facing psychological problem. The aim of this study is to determine the help-seeking intention among the Asian medical and health sciences students.

**Summary of Work:** The subjects were all the medical, dental, pharmacy and health sciences students (estimated total of 2500) in a private medical university in Malaysia and they were recruited via universal sampling. General Help-Seeking Questionnaires (GHSQ) was used and consist of the demographic information and the measurement of help-seeking intention. GHSQ contained seven scenarios regarding stress, anxiety, depression, suicidal ideation, substance misuse, psychosis and heart disease. A descriptive statistical analysis was used to determine the prevalence of help-seeking intention in different programmes or academic status.

**Summary of Results:** There were 998 responses from Medicine (296), Dental (91), Pharmacy (303), Health Sciences (272) and others (36). Above 90% of students reported the seeking-help intention in six scenarios except stress (86%). However, they mostly seek help from intimate partners, parents and friends. The percentage that seek help from mental health professional for mental health problems is lower (52%) except for suicidal ideation (67%) and psychosis (66%). In contrast, 83% would seek help from doctor for physical health problems. The help-seeking intention from mental health professionals among medical, dental, pharmacy and health sciences students were 52%, 54%, 47% and 55% respectively. Those who had resit (88), repeat (33), deferment (9) or successful progression (868) and likely seek help were 55%, 51%, 67% and 49% respectively.

**Discussion and Conclusions:** Past studies reported similar outcomes that most college students preferred sharing their psychological problems with close friends rather than professionals. As such, the universities especially students services departments may consider developing programmes or activities that enable them to reach out to more students such as peer counseling programme.

**Take-home Messages:** The mental health professionals may rethink their approach to meet the needs of the rising number college students with mental health problems who are reluctant to seek professional help.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL10 (1669)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Increasing the Determination Coefficient of an Academic Risk Predictive Model for First Year Medical Students, Universidad Andrés Bello, Viña del Mar, Chile

#### AUTHOR(S):

- Peter McColl, Universidad Andres Bello, Viña del Mar, Chile (Presenter)
- Mariana Searle, Universidad Andres Bello, Chile
- Carolina Perez, Universidad Andres Bello, Chile
- Jessica Goset, Universidad Andres Bello, Chile
- Jonathan Acosta, Universidad Andres Bello, Chile
- Veronica Silva, Universidad Andres Bello, Chile

#### ABSTRACT

**Background:** Academic risk detection allows to opportunely support students and prevent delays in curricular advancement and/or desertion. A predictive Model for Academic Risk was tested in 2017. In 2018, several variables were included in a new intent to increase the model's determination coefficient. Objective: to increase the predictive value of the academic risk model incorporating new variables and second semester grades of the first year of medical school.

**Summary of Work:** A cross-sectional study was conducted (n54). Informed consent obtained. First semester 2018: students completed 2017's surveys, and Learning Strategies (ACRA); Burnout Syndrome (Maslach); Emotional intelligence (EQI-short); Attention (FFMQ) tests, and Sociodemographic questionnaire. For the analysis, 2017's variables were considered and also total and subscale score means from 2018's surveys. All variables were analyzed in relation to final first and second semester grades means. Correlation and linear regression,  $p < 0.05$  were used.

**Summary of Results:** Students pass all first semester classes, so the model achieved best predictability when considering second semester final grade means. Meaningful variables were: critical thinking, effort regulation, help seeking, origin, family pressure, household tasks, previous mental health status,  $p < 0.05$ . In this multiple linear regression, the determination coefficient was 0,837, with a  $p < 0,0000000735$ . 2018's included variables are meaningful, and the model explains near 84% of second semester final grades means.

**Discussion and Conclusions:** The variables included in 2018, improved the model's academic risk predictability determination coefficient. 2017's model demonstrated a predictive value of 68%, whereas 2018's variables linked to the regression model were able to explain the variability of academic performance close to an 84%. Socio emotional variables play a key role in the predictability of the model, showing thus the importance of considering students psycho- affective dimensions.

**Take-home Messages:** To validate the academic risk predictive model, students from all three UNAB's medical schools will participate in 2019's survey process. It is a task to be observants and make timely professional referrals of students that have low academic performance and/or any other detected difficulty.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL11 (2736)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### What's stopping the current? Early failure increases risk for problems in later years of medical education

#### AUTHOR(S):

- Adele Kastensson, Karolinska Institutet, Sweden (Presenter)
- Robert Lilford, Karolinska Institutet, Sweden
- Riita Möller, Karolinska Institutet, Sweden
- Eli Westerlund, Karolinska Institutet, Sweden
- Marie Dahlin, Karolinska Institutet, Sweden
- Ellinor Kenne, Karolinska Institutet, Sweden

#### ABSTRACT

**Background:** Each year a number of medical students face difficulties in following the curriculum on time. This affects the individual student and is an increasing problem for the university. Failure to complete coursework on time may result from not attending compulsory modules or from failing exams. In some instances, students may resit exams or complete lost modules while continuing to follow the curriculum. The aim of this study was to analyze the effects of early failure on student performance in later courses.

**Summary of Work:** University records were scrutinized regarding the time to course completion for students starting the undergraduate medical program between 2013 and 2017. We collected descriptive data on the first six courses during the first two curricular years by tracking individual student results in each freshman cohort.

**Summary of Results:** Preliminary data show that contrary to faculty perceptions of increasing numbers of failing students, we found no decrease in overall course completion between year 2013 and 2017. At the start of the second year, i.e. after three courses, 64±6% of students (n=7 cohorts, 1139 students) from the freshman cohorts were still on track. Furthermore, cohort performance indicated that students failing the first course had an enhanced risk (15% compared to 3% in students who passed the first course) failure in the second course. Finally, we found that the probability of completing a course decreases proportionally to the amount of time that has passed after the course has ended.

**Discussion and Conclusions:** Our analyses identified that failure during the first semester is a risk factor for future poor academic performance as well as an increased risk of not registering on future courses. Although these data do not take into account valid interruptions in the program, e.g. parental leave, they provide a solid ground for future investigations of underlying factors affecting student performance.

**Take-home Messages:** Early success is a good predictor for future performance. Therefore, it is key that the educational program develops strategies to promptly identify and support failing students.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL12 (1675)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Reaching the Troubled Learner: Faculty Development to Expand the Skill Set of Small Group Advisors

#### AUTHOR(S):

- Martha Ward, Emory University School of Medicine, USA (Presenter)
- Mary Jo Lechowicz, Emory University School of Medicine, USA

#### ABSTRACT

**Background:** Psychological distress is increasingly common in medical students. Despite this, few students seek treatment.

**Summary of Work:** Upon matriculation, students at Emory School of Medicine are assigned to a faculty Small Group Advisor (SGA). Small Groups meet regularly for interactive didactic instruction and process sessions. We created a faculty development curriculum for our SGAs aimed at enhancing their ability to provide support and identify adverse mood states. First, psychologists instructed the SGAs on group dynamics and facilitating a reflective practice. Next, SGAs participated in a faculty-only process group to discuss challenges and successes in leading their Small Groups. Finally, a psychiatrist created facilitator guides to assist SGAs in leading process sessions.

**Summary of Results:** 81.0% of SGAs (n=21) rated the faculty development sessions overall as “very useful” or “extremely useful.” The SGAs’ rating of the facilitator guides varied by individual subject and ranged from 54.5% to 88.9% rated as “very good” to “excellent.” 71% of students rated their SGA as “excellent” or “very good” (n=69) at leading process sessions. In response to the question “What techniques did your SGA use to facilitate the process group?,” students commented on the SGAs’ modeling disclosure, allowing space for self-discovery, and normalizing the challenges of medical training.

**Discussion and Conclusions:** Stigma and lack of readily available psychological/psychiatric resources likely contribute to medical students’ lack of help-seeking behavior. SGAs serve a unique role for students at our institution, and with training, can support students without imposing stigma in treatment seeking. Although they are not acting as therapists, SGAs can act as group facilitators, thereby increasing access.

**Take-home Messages:** Medical students suffer a disproportionate share of adverse psychological states. SGAs from diverse backgrounds have the ability to provide support and lead group discussions concerning the challenges of medical training. Faculty development is an essential part of preparing SGAs for this role.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL13 (1449)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A systematic Review of Remediation Strategies for Learners Struggling with Communication Skills

#### AUTHOR(S):

- Deema Al-Sheikhly, Weill Cornell Medicine-Qatar, Qatar (Presenter)
- Thurayya Arayssi, Weill Cornell Medicine-Qatar, Qatar
- Linda Östlundh, United Arab Emirates University, United Arab Emirates

#### ABSTRACT

**Background:** Interpersonal and communication skills are an integral element of quality patient care and are recognized as a core area of competency for medical students, residents, and practicing physicians. Trainees deficient in communication skills are not identified early enough and effective remediation strategies are not easily defined. We undertook a systematic review to determine which assessment methods are appropriate to identify learners struggling in communication skills and the strategies used to remediate.

**Summary of Work:** The literature was searched from January 1998 through to June 2018 using academic databases and grey literature. Trainees were defined as individuals in undergraduate and graduate health profession disciplines as well as those in healthcare practice. Characteristics of studies, assessment and intervention strategies and outcomes were synthesized qualitatively and summarized in tables.

**Summary of Results:** From an initial 1,178 records, 18 studies met the inclusion criteria. Majority of learners in the studies were medical students. Around half of the studies focused solely on learners struggling with communication skills. The majority of studies used a format of a clinical OSCE to identify struggling learners. None of the studies had a single intervention strategy with the majority including an experiential component with feedback.

**Discussion and Conclusions:** A few studies collectively described the diagnosis, remediation, intervention and the assessment of the outcomes of remediation of communication skills. For a remediation strategy to be successful it is important to ensure early identification and diagnosis, development of an individualized plan and reassessment with feedback. This study supports the need for more rigorous outcomes-based research, using control or comparison groups, for the diagnosis and remediation of healthcare practitioners struggling with interpersonal and communication skills across the continuum.

**Take-home Messages:** Early identification and diagnosis using multiple methods, followed by the creation of individualized plan and reassessment with feedback are key to successful remediation.



## #8LL Posters - Students: Motivation/Student in Difficulty

**8LL14** (2678)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Which behaviors of medical students are considered as incivility from clinical teachers' point of view

#### AUTHOR(S):

- Hossein Karimi Moonaghi, Mashhad University of Medical Sciences, Iran (Presenter)
- Hakimeh Sabeghi, Birjand University of Medical Sciences, Iran
- Ali Emadzadeh, Mashhad University of Medical Sciences, Iran
- Mohammad Reza Abedini, Birjand University of Medical Sciences, Iran

#### ABSTRACT

**Background:** Uncivil behavior can occur in any society and academic settings are not immune from this problem. As regards that such behaviors are unhealthy and considered as a serious threat to the teaching-learning process, should be properly identified and controlled. This study aims to introduce and describe the academic incivility in medical students.

**Summary of Work:** In this cross-sectional study, 35 clinical faculty members of the Medical School of Birjand University of Medical Sciences who were selected by census completed the researcher-made questionnaire about academic uncivil behaviors in medical students.

**Summary of Results:** In terms of faculty members, behaviors related to the areas of failure to comply with class discipline, showing lack of interest in order of class, and lack of preparation and participation in class activities have the high degree of destruction for teaching-learning process and teachers have high exposure with them, too. According to the results unnecessary trips that interrupted the professors' and other students' focus in the class, was the most destructive uncivil behavior (74.2%), and teachers exposure the most with late attending in training sessions.

**Discussion and Conclusions:** In this study the most frequent and destructive uncivil behaviors in medical students were determined. These findings can be helpful to choose the right strategy for reducing such behaviors in academic setting.

**Take-home Messages:** Clearly, the existence of a safe teaching and learning environment is essential. Challenging, incivil or unethical behaviours in scientific environments are more vulnerable to being neglected; therefore, such behaviours should be addressed promptly and effectively.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL15 (1120)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Factor affecting CPIRD and ODOD medical students' efficiency in passing the national license examination

#### AUTHOR(S):

- Piyabut Taotip, Roi Et Hospital Medical Education Center, Thailand (Presenter)
- Tawatchai Amornmoragot, Roi Et Hospital Medical Education Center, Thailand
- Sucheera Amornmahaphun, Roi Et Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** The medical school has launched an One District One Doctor(ODOD)in parallel with the Collaborative Project to Increase Production of Rural Doctor(CPIRD)project.Though the ODODstudents were accepted to the medical school with a lower entrance score,they both enrolled in the same classes and took the same national license(NL)examination.This study aims to find the factors affecting NL passing between these two projects.

**Summary of Work:** The retrospective data collecting from the 132 students (classes 2010-2015) in order to use in this study included: gender, age, their clinical year, hometown, GPA score during their 3rd, 5th and 6th years,the project they are under and their first NL exam results in all 3 steps.

**Summary of Results:** There are 66% of CPIRD students and 34% of ODOD students. The first step NL exam passing rate is 68.9% for CPIRD students while ODOD students is at 86.7% with a statistically significant (p-value=0.026).The factors are as follow:

1)The ODOD project present with passing valued of OR=2.93 (95%CI:1.11-7.73;p-value=0.030) when comparing with CPIRD.

2)The GPA during students' 3rd year in school ( $\geq 3.00$ ) representing with OR=16.21 (95%CI:6.21- 42.31; p-value<0.001) when compared with <3.00.

The second step NL exam passing rate is 92.0% for CPIRD students while ODOD students is at 84.4% with no statistically significant (p-value=0.184). The factors is the 5th year GPA $\geq 3.00$  presenting the passing rate at OR=7.15 (95%CI:1.88-27.10; p-value=0.001) when compared with those<3.00.

The third step NL exam passing rate is 92.0% for CPIRD students while ODOD students is at 88.9% with no statistically significant (p-value=0.561) and there are no influential factors.

**Discussion and Conclusions:** For the first step of NL exam,the extra tutoring classes were provided to the ODOD students.Such classes should also be provided to CPIRD students.The second step of NL exam is a clinical knowledge test which relate to their clinical experiences and lectures,it was equally provided for students in both projects so the students who have high GPA is most likely to pass the test.The third step NL exam is based on the clinical experience which students from both projects have equal chance to practice so the passing rate showed no difference.The project or entrance score seem to show no influence.

**Take-home Messages:** There should be the follow-up and support system for those with low GPA, in order to help them to improve further in their academic year. There also should be enhance their clinical practice to archive a higher NL exam passing rate.

## #8LL Posters - Students: Motivation/Student in Difficulty

### 8LL16 (1814)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Trajectories of undergraduate medical students' performances and their relationship with learning approaches

#### AUTHOR(S):

- Anne Baroffio, University of Geneva Faculty of Medicine, Switzerland (Presenter)
- Giovanni Piumatti, University of Geneva Faculty of Medicine, Switzerland
- Milena Abbiati, University of Geneva Faculty of Medicine, Switzerland
- Margaret W Gerbase, University of Geneva Faculty of Medicine, Switzerland

#### ABSTRACT

**Background:** Highlighting predictors of medical students' academic performances since early study years is crucial to develop supporting interventions toward lower achieving students at risk of dropout. Previous studies evidenced how learning approaches have a strong discrimination power on students' performance. In this study we investigated the relationship between deep and surface learning approaches and academic performance in practical and theoretical examinations, from a longitudinal perspective.

**Summary of Work:** Sample consisted of 137 undergraduate medical students from the Geneva medical school (Mage=20.85 years, 53% females) recruited during their first pre-selection academic year (Year 1) who successfully passed to Years 2 and 3. Longitudinal group-based trajectory modeling traced trajectory groups of medical students based on two types of assessments, a knowledge-based multiple choice question test and a practice-based exam, recorded during three semesters throughout academic years 2 and 3. Moreover, at Year 1 students completed the revised two-factor Study Process Questionnaire.

**Summary of Results:** Three longitudinally stable trajectory groups of academic performance were found: low (n=38, 28%), average (n=64, 47%) and high achievers (n=35, 25%). Low achievers consistently reported the lowest results on both types of assessments across semesters. Average achievers had worse performances than high achievers (who reported the best scores on all semesters) especially on the knowledge-based test. Multinomial logistic regression evidenced that (1) students who had been repeating Year 1 after failing, were more likely to belong to the low vs. average (OR=-1.56, p=0.005) or high (OR=-2.15, p=0.001) achievers groups ; and (2) students using deeper learning approaches at Year 1 were more likely to belong to the average vs. low achievers group (OR=0.11, p=0.026).

**Discussion and Conclusions:** Undergraduate students can follow different trajectories of performances. These trajectories are associated with the learning approaches they used earlier during their studies. Students' use of deep learning approaches during their first study year is positively associated with the average vs. lower performance trajectory during the next 2 study years (but not higher vs. average).

**Take-home Messages:** Learning approaches are predictors of academic performance trajectory since early study years in medicine. Students repeating their first academic year are particularly at risk of exhibiting lower performance results during the following undergraduate years.

## #8LL Posters - Students: Motivation/Student in Difficulty

8LL17 (2004)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A Strategy for the Learning Enhancement of Medical Students in Achieving and Maintaining Success

**AUTHOR(S):**

- Lennon Bhagwandin, American University of the Caribbean, USA (Presenter)

**ABSTRACT**

**Background:** The medical school curriculum at USA schools is a rigorous one, aimed at a high percentage of students succeeding at the USA Medical Licensing Examination (USMLE). These challenges are soon realized by 'at-risk' medical students, many of whom fail multiple courses at the first sitting. Possible reasons for this are inappropriate study methods, time management, cultural approaches and difficulty comprehending medical concepts, amongst others. Thus there exists a dire need to address these deficiencies in this group, so as to equip them with the necessary approaches to achieve the desired success through implementation of study methods that work.

**Summary of Work:** In this present study at a large Caribbean medical school, an academic support program entitled Learning Enhancement Course (LEC), has been developed for these 'at-risk' students, in which they are exposed to a variety of study skills and strategies, which they then apply to their studies in order to succeed. A questionnaire was administered to these students to determine the effectiveness of the program.

**Summary of Results:** An analysis of the responses show that despite students finding the time needed for meetings as consuming, the program was highly beneficial to them and they are able to implement and apply the techniques taught to them, to succeed in their present courses as well as in future semesters.

**Discussion and Conclusions:** Students reported that using these new study skills coherently helped them gain a better understanding of their strengths and weaknesses and to think in a critical manner, thus enabling them to analyze exam questions efficiently and arrive at an informed decision.

**Take-home Messages:** In light of the perceived success of the LEC program, the question can also be raised as to whether the program could be expanded and developed to identify potential failures, so that remedial action can be implemented for this group during their first attempt at their respective courses.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM01 (1179)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Using the Objective Structured Clinical Examination to evaluate the newly graduated nurse in chest tube drainage care

#### AUTHOR(S):

- Chi-Yun Chang, Taichung Veterans General Hospital, Taiwan (Presenter)
- Li-Ling Hung, Taichung Veterans General Hospital, Taiwan
- Shaw-Shin Wu, Taichung Veterans General Hospital, Taiwan
- Su-Chiu Wang, Taichung Veitrans General Hospital, Taiwan

#### ABSTRACT

**Background:** According to the Taiwan Patient Safety Reporting System in 2017, a total of 133 chest tube safety incidents occurred. The content indicates that the technical failure or evaluation error is caused by the dropout of the pipeline (65%) and the disconnection of the pipeline (19%). We implement OSCE process to analyze NPGY who have been employed for less than 3 months for Cognitive, Affective, and Psychomotor.

**Summary of Work:** We designed a clinical situations case for those NPGY who are recruited from January to October, 2018 to test whether they are able to care chest tube patients. Before the test, NPGY read the standard documents and watch the training videos. The 12-item standardized checklist is used to evaluate the cognitive and care skills by 5-stage Likert scale. The examiner guides the NPGY to complete the operation and scores items. At the end of the test, the total evaluation is based on the global ratings scale A to C. Descriptive statistics was adopted to describe the average performance and the scores of the checklist items.

**Summary of Results:** Total 224 NPGY were tested. 12% of NPGY was graded in A in terms of Affective domain; 84% in grade B, and 4% in grade C. The top three items which below the standard refer to the Psychomotor Domain include: the drainage tube lying on the bed and no drooping loop (8%); wash hands before operation (7%); confirm the chest drainage bottle is tightly connected with the drainage tube and the lid of the bottle is tightly closed (6%).

**Discussion and Conclusions:** We can remind clinical teachers in the teaching process to use clinical actual cases to help students improve their perception and achieve the three major teaching objectives and thereby reducing the risk of patient health and pipeline safety incidents.

**Take-home Messages:** Learning by doing is an important part of Nursing education.



## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MMo2 (46)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The effects of a 5 core teaching/evaluating skill workshop on teaching anxiety and effectiveness of Junior Residents

#### AUTHOR(S):

- Chih-Hsiung Hsu, Teaching Office, Tri-Service General Hospital, Taiwan (Presenter)
- Hao-Ming Chang, General Surgery Division, Tri-Service General Hospital, Taiwan
- Yaw-Wen Chang, Department of Family, Tri-Service General Hospital, Taiwan
- Pi Yu Wu, Teaching Office, Tri-Service General Hospital, Taiwan
- Cheng-Yi Cheng, School of Medicine, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** Residents play an important role in the clinical teaching field. To be as a teacher, residents may have the same problem, teaching anxiety. Teaching anxiety could affect the ambiance in the clinical teaching field, leading to a reduction in students' learning and performing intention. There has been increasing recognition of the need to implement "Resident-as-Teacher (RaT)" program in hospital, which could improve teaching attitudes, skills, and behavior. The effect of RaT programs on teaching anxiety of resident, however, has not yet been investigated.

**Summary of Work:** The goal of this 7-hour workshop was training junior residents to teach the 5 teaching and evaluation skills, including the One-Minute Preceptor, bedside teaching, the teaching of evidence-based medicine (EBM), Mini-Clinical Evaluation Exercises (Mini-CEX), and Core EPAs for Entering Residency. To assess the Kirkpatrick level 1 to 3, Google Forms was used to assess the outcome before and after the workshop. To examine the "result level of Kirkpatrick model, we compared the result of student satisfaction to the participates before and after this workshop. We analyzed the participants' teaching anxiety, degree of understanding and self-efficacy about the 5 teaching and evaluation skills and participants' clerkship student satisfaction.

**Summary of Results:** After the workshop, the degree of understanding about the 5 teaching and evaluation skills was significantly higher than before the workshop. The residencys self-efficacy of 5 teaching and evaluation skills increased significantly after the workshop. The score of control negative emotion, one of teaching anxiety scales, after the workshop was better than before workshop. The Internship-student satisfaction was slightly increased after the workshop for one month.

**Discussion and Conclusions:** The workshop containing the 5 teaching and evaluation skills could decrease the participant's teaching anxiety and improve clinical and teaching skills. Their student feedbacked higher satisfaction score.

**Take-home Messages:** RaT program helps junior residents decrease teaching anxiety and have better teaching performance.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM03 (1688)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### A holistic evaluation system for post-graduate year students: experience sharing from a Taiwan teaching hospital

#### AUTHOR(S):

- Jin-Shuen Chen, Tri-Service General Hospital, National Defense Medical Center, Taiwan (Presenter)
- Yu-Huei Li, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Shao-An Fang, Tri-Service General Hospital, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** One method to improve the quality of PGY training is to establish an ideal evaluation tool for communication among teachers, students and administrators. Here, a method from a teaching hospital in Taiwan for sharing our experience is demonstrated.

**Summary of Work:** First, an operating system in Excel was created. Parameters of student, teacher, tutor and a holistic assessment tools all were included in the system. Second, a flow chart for data collection, analysis and feedback was established. Data analysis was separated into two major parts for students and teachers. For students, we aimed to identify weak points and weakness. For teachers, we aimed to find any bias in the same assessment tool that needed to be pointed out and informed teacher. For administrators, we aimed to find any insufficiency in the flow chart.

**Summary of Results:** Data were collected from one year's cohort of 53 students. Data from the holistic evaluation system was analyzed, and separated into students and teachers. For students, data was presented according to each section and each student. Each month, the lowest scoring student of each section and bottom 10% of students were discussed. We found the variation of score between the top one and bottom students had no significant difference, so numeric assessment may not be a good indicator for improving ability of students. For teachers, score trends of each course and variation of score in different sections were analyzed. We found that different teachers and sections had significant variation in scoring for some courses. We suggested correction index for the score of each teacher may be necessary and all teachers needs to be attended an information session on scoring requirement before becoming a PGY teacher.

**Discussion and Conclusions:** A simple evaluation system in Excel and a flow chart for improving ability of PGY trainees were established and implemented in a teaching hospital in Taiwan.

**Take-home Messages:** The whole system is easy to operate, the tool identified weakness and challenge to be addressed in our program.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MMo4 (1041)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Measuring Metacognitive Skills: Pilot Results From A Study Involving Internal Medicine Residents

#### AUTHOR(S):

- Michael Healy, Department of Surgery, Massachusetts General Hospital, Harvard Medical School and NEJM Group, USA (Presenter)
- Emil Petrusa, Department of Surgery, Massachusetts General Hospital, Harvard Medical School, USA
- Craig Noronha, Department of Medicine, Boston Medical Center, Boston University School of Medicine, USA
- Carl Gustaf Axelsson, Department of Surgery, Massachusetts General Hospital, Harvard Medical School, USA
- Matthew O'Rourke, NEJM Group, USA
- Roy Phitayakorn, Department of Surgery, Massachusetts General Hospital, Harvard Medical School and NEJM Group, USA

#### ABSTRACT

**Background:** In today's healthcare environment, discoveries are continuously occurring. As such, a physician's learning must be continuous and occur throughout their career. Therefore, physicians need to use their metacognitive skills to both understand their strengths and weaknesses and to build learning strategies around them.

**Summary of Work:** To address this concept, we explored if metacognitive skills can be objectively measured and how these measurements can change over time to help learners develop effective learning approaches and strategies. Our pilot study consisted of 69 internal medicine residents who were provided access for a year to the NEJM Knowledge+ Internal Medicine Board Review (NEJM Knowledge+) product, an adaptive e-learning product that features a comprehensive question bank. As the residents answered questions from the question bank, they were simultaneously asked how confident they were in their answer.

**Summary of Results:** Metacognitive skills were measured by comparing resident confidence versus performance when answering questions and grouped into four objective categories (correct & aware; correct & unaware; incorrect & aware; and incorrect & unaware). At the initial 30-day period, 41 residents (59.4%) received individualized electronic feedback on their metacognitive skills. The metacognitive skills for these residents were longitudinally tracked, which allowed for comparisons between usage after an initial 30-day period in the fall of 2018 and usage as of January 2019. The percentages of average metacognitive skills measurements in the four objective categories for these 41 residents were as follows: correct & aware (58.6% and 56.9%, respectively), correct & unaware (11.3% and 11.0%, respectively), incorrect & aware (12.4% and 12.9%, respectively), and finally, incorrect & unaware (17.6% and 19.2%, respectively). There were no significant differences in each of these groups when comparing the two time periods.

**Discussion and Conclusions:** These pilot results indicate that metacognitive skills can objectively be measured. While there were no significant differences, future research will explore possible differences over an extended period, as well as other methods to offer individualized feedback to facilitate the improvement of metacognition and construction of new learning strategies.

**Take-home Messages:** Metacognition can be measured, but feedback may be best delivered utilizing individualized electronic feedback in tandem with other methods.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM05 (1079)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Designing and evaluating a departmental teaching programme

#### AUTHOR(S):

- Chiara Petrosellini, Whittington Health NHS Trust, UK (Presenter)
- Daniel Stott, University College London Hospital, UK

#### ABSTRACT

**Background:** Postgraduate departmental teaching can address knowledge gaps, support exam preparation and provide opportunities for trainees to share areas of expertise. Teaching peers is a GMC requirement of good medical practice and a curriculum requirement for The Royal College of Obstetricians and Gynaecologists. Despite the importance of departmental teaching, there is significant variation in its quality and structure.

**Summary of Work:** We surveyed junior doctors in the Women's Health department at The Whittington Hospital, London, via an anonymous online questionnaire seeking their views on the content, structure, timetable and location of departmental teaching. Overall the respondents (n=16) were dissatisfied with the quality of the existing teaching programme, and the self-reported attendance was poor: 80% of trainees attended either none or just one teaching session per week, often due to clashes with clinical commitments or poor communication around the teaching programme. Recurring themes emerged: there was little awareness of teaching activity, on-call teams were rarely able to attend, and there was a strong request for consultant-led teaching. Using these findings, we designed an updated departmental teaching programme. We adapted the timing and location of teaching to allow as many trainees as possible to attend. We created and distributed a teaching rota overview for every two-month block, as well as weekly email reminders of upcoming sessions. We contacted consultant colleagues from our department and allied specialities asking them to contribute to weekly teaching.

**Summary of Results:** Six months after implementing these changes we distributed another anonymous online questionnaire to junior doctors within the department. This showed attendance at departmental teaching had doubled and satisfaction with teaching content had significantly improved. All trainees were able to attend at least one session per week, and the majority attended two to three. The sessions were described as varied, engaging and worthwhile.

**Discussion and Conclusions:** Our data demonstrates that simple interventions can dramatically improve trainee attendance at, and satisfaction with, postgraduate departmental teaching.

**Take-home Messages:** Introducing peer-led and consultant-led teaching within a busy department is challenging. Small practical adaptations and regular reminders of upcoming sessions, however, can create a sustainable, comprehensive programme with excellent trainee satisfaction.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MMo6 (2633)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The more the merrier? Does time spent on appraisal meetings in postgraduate medical education make a difference?

#### AUTHOR(S):

- Anita Sørensen, Randers Regional Hospital, Denmark (Presenter)
- Marianne Kleis Møller, Aarhus University Hospital, Denmark
- Pernille Andreassen, Centre for Health Sciences Education, Health, Aarhus University, Denmark
- Bente Malling, Centre for Health Sciences Education, Health, Aarhus University, Denmark

#### ABSTRACT

**Background:** According to a national formal advisory program in Denmark, an educational advisor in the form of a senior colleague is assigned to every doctor in each rotation of postgraduate medical education. The advisor must conduct at least three appraisal meetings with the trainee. Inspired by the Success Case Method this study investigates differences between the doctors who in a survey evaluated the NFAP most positively (successes) respectively most negatively (non-successes).

**Summary of Work:** In 2017 a survey was conducted among all 129 doctors, who were employed in their first 6-month rotation of postgraduate medical education in one of five regions in Denmark. A cluster-analysis gave rise to a group of 8 successes, 7 non-successes and 62 in an average group. Differences in descriptive data were calculated by use of Chi2-tests.

**Summary of Results:** The response rate was 67%. Non-successes and successes had the same number of appraisal meetings, but the total amount of time spent on the meetings was significantly lower in the group of non-successes. For 60% of the successes their meetings in total lasted more than two hours, whereas the meetings for 100% of the non-successes lasted less than one hour in total.

**Discussion and Conclusions:** Other studies have proved that mentees, who meet their mentor more often, rate their mentoring higher. This study showed that it was not the number of appraisal meetings but the total amount of time spent on the meetings that diverged between trainees who evaluated their appraisal meetings the most beneficial and those who evaluated them the least beneficial. Nevertheless this is not the same as the more the merrier as other factors, such as the advisors' motivation and engagement, is known to be of importance to. Further studies are necessary to reveal if less time spent on meetings might be caused by lesser motivation and engagement from the advisor and/or even the trainee himself.

**Take-home Messages:** The total amount of time spent on appraisal meetings makes a difference as to whether trainees in postgraduate medical education perceive appraisal meetings as beneficial or not.



## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MMo7 (1471)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Video-assisted reflection of bedside teaching skills provides effective and objective feedback to young residents

#### AUTHOR(S):

- Wen-Hui Fang, School of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taiwan (Presenter)
- Chih-Hsiung Hsu, Teaching Office, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Cheng-Yi Cheng, School of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Chin-Sheng Lin, School of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taiwan

#### ABSTRACT

**Background:** Resident as teacher (RaT) is current trend which not only provides training closer to learner but promotes healthcare quality. To be a teacher is challenging for young residents, who are under great pressure of clinical workload and unfamiliar to be teachers. Video-assisted recording could provide immediate and precise reflection, which potentiates the effects of the feedback from senior instructors. This study applied video-assisted reflection to young residents regarding the bedside teaching skills and evaluated the outcome of the program.

**Summary of Work:** We established a scoring system which comprised of 10 essential components of bedside teaching skills. Young residents were requested to participate the workshop of bedside teaching. During the workshop, essential components of bedside teaching skills were instructed by senior doctors. Then young residents did role playing to perform bedside teaching activities. All the activities were recorded by a video and evaluated by senior instructors. After the activities, senior instructors provided immediate feedback according to the scoring system, which was validated by video recording. Young residents who did not answer more than 8 out of 10 correctly were requested to repeat the activities. Questionnaires regarding the satisfaction, learning attitude, and learning motivation were obtained after the activities.

**Summary of Results:** There were 27 residents participating in the workshop. Eight out of all did not reach the criteria during the first activities. After the second activities, all the 8 residents passed the examination. The satisfaction rate of the curriculum was 91.17%. In the qualitative feedback, young residents suggested that the instructor feedback assisted by video recording rapidly pointed out their shortcomings, which are specific and easy to be improved.

**Discussion and Conclusions:** Undoubtedly, young residents need to be well educated to be teachers. However, with teaching anxiety among young residents, several methods have been developed in RaT program with variable outcome. Through video-assisted demonstration along with tutorial of experienced instructors, young residents could easily identify the essential components of the teaching skills, which helps them to be equipped as teachers.

**Take-home Messages:** Applying video-assisted reflection could be a promising strategy to give straightforward feedbacks and enhance bedside teaching skills to young residents who have teaching anxiety and heavy clinical workload.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MMo8 (1913)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Core competency evaluation complements general academic performance in prediction of clinical performance in internship

#### AUTHOR(S):

- Yih-Jer Wu, Mackay Medical College / Mackay Memorial Hospital, Taiwan (Presenter)
- Chun-Chih Peng, Mackay Medical College / Mackay Memorial Hospital, Taiwan
- Ling-Lang Huang, Department of Medicine / Mackay Medical College, Taiwan
- Chau-Shoun Lee, Mackay Medical College / Mackay Memorial Hospital, Taiwan
- Yat-Pang Chau, Department of Medicine / Mackay Medical College, Taiwan
- Hung-I Yeh, Mackay Memorial Hospital / Mackay Medical College, Taiwan

#### ABSTRACT

**Background:** All medical schools in Taiwan have their own pre-set core competencies (CCs) but few substantially evaluate these CCs before student graduation; instead, most of medical schools still give student credits by their general academic performance (GAP). We sought to investigate whether the addition of CC achievements to traditional GAP would be more predictive to their clinical performance (CP) in internship.

**Summary of Work:** Each of 7 pre-set CCs was stratified into 3 levels: “standard”, “good”, and “outstanding”, according to the achievement evidences provided. Students who achieved any “outstanding” or at least 4 “good” levels in 7 CCs were awarded in the graduation ceremony. The level of GAP (the final average score of all taught courses taken from years 1 to 4) was expressed as GAP rank in the class. CP in internship was evaluated as a composite rank in the class, according to their clinical competencies (70%), clinical knowledge (10%), OSCE (10%), clinical meeting performance (10%), and learning portfolio (bonus score).

**Summary of Results:** Totally 124 students graduated from 2016 to 2018 were enrolled. Students with CC awards had significantly better CP ranks (12.2±9.1 vs. 25.4±11.1,  $P=3.9 \times 10^{-10}$ ) and GAP ranks (16.0±11.7 vs. 24.4±11.6,  $P=4.1 \times 10^{-4}$ ) than those without. Both GAP rank and CC award were independent predictors for CP rank in internship (beta=0.61,  $P<0.001$  and beta=-0.48,  $P<0.001$ , respectively). The addition of CC award to traditional GAP rank in the model reduced residual sum of squares from 11287 to 9469 with an increase of adjusted R squares from 0.37 to 0.47 ( $P<0.001$ ), indicating a significantly better prediction for CP rank.

**Discussion and Conclusions:** We evaluated the 7 core competencies including service to the disadvantaged, care for humanities and environments, lifelong learning, critical appraisal, just to name a few, according to the achievement evidences provided by students themselves. CC achievement, though evaluated more qualitatively than quantitatively, was found to be a valuable supplement to GAP in prediction of future CP. A more comprehensive evaluation of CCs may be more predictive to future clinical competencies and professionalism.

**Take-home Messages:** CC evaluation is able to complement traditional GAP in prediction of future real-world clinical competencies.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM09 (3052)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Quantitating the effect of increased supervision using electronic records in an emergency department

#### AUTHOR(S):

- Sune Laugesen, Emergency Department, Odense University Hospital, Denmark (Presenter)
- Michael Hansen-Nord, Emergency Department, Odense University Hospital, Denmark
- Annmarie Lassen, Emergency Department, Odense University Hospital, Denmark
- Niels Thomas Hertel, Centre for Doctors Education, Denmark

#### ABSTRACT

**Background:** Despite certain, known drawbacks direct observation and feedback is considered an essential part of postgraduate medical training, perhaps even best-known practice. However, by some hospitals it is considered costly. This study aims to investigate if increased supervision of first year interns by senior consultants in the ED result in an increase in number of patients seen per shift and a decrease in time spent reaching a diagnosis and treatment plan, thus rendering the use of the consultant as a supervisor rather than clinician cost effective over a 6-month period.

**Summary of Work:** By use of the Cetrea system the date and time of first contact and time of conclusion and plan is available for all patients seen by junior doctors in the ED since 2007. Since July 2017 the number of consultants has been increased by 50% Monday, Wednesday and Friday with the sole purpose of increased supervision. Since October 2018 it has been further increased 50% on Tuesday and Thursday also. This study quantifies, per 10 hours shift, the number of patients seen as well as the speed with which a final diagnosis and plan is reached by the first-year residents in the ED. It compares the data from the three different periods with different amounts of available time for consultant supervision and guidance. It also quantifies the progress of each, individual resident during their 6-month employment. The numbers are corrected according to the total numbers of patients passing through the ED on that particular shift.

**Summary of Results:** The data has been collected but not yet extracted from the Cetrea system and analyzed. The study is expected to be finished, at the latest, by the end of May 2019.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM10 (2200)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

## Improving Quality of Educational Supervisor Reports and Supervised Learning Events

### AUTHOR(S):

- **Mumtaz Patel, Health Education England, UK (Presenter)**
- Warren Lynch, Joint Royal Colleges of Physicians Training Board, UK
- Paul Baker, Health Education England, UK

### ABSTRACT

**Background:** Our previous research has shown that Educational Supervisor Reports (ESR) and Team Assessment of Behavior are strongly predictive of doctors in difficulty.<sup>1</sup> However, quality of ESRs and Supervised Learning Events (SLEs) are variable and this study evaluates whether this can be improved using a structured framework with targeted feedback to trainers.

**Summary of Work:** A one-page framework developed to assess quality of ESR (n=15) by the Renal Medicine Annual Review of Competency Progression (ARCP) panel at Health Education England North West (HEE NW) in 2014. Formative feedback sent to each educational supervisor (ES) and comments individually discussed. Successive ESRs (n=15) then assessed by the Renal ARCP panel in 2015-2017 to evaluate if there was any improvement in quality. A similar framework used to assess quality of SLEs (sample of 3-4 per ES) by the Renal ARCP panel (n=21) in 2016-2017 and trainee feedback also collated. The ES and trainee feedback was assessed qualitatively using a thematic analysis.

**Summary of Results:** Successive ESRs showed: • Significant improvement in quality (Excellent grading 13.3-83.3%,  $P < 0.0001$ ). • Detailed free-text comments referenced to multiple sources of evidence. • More constructive feedback with specific learning objectives incorporated into the personal development plan. • Good evidence of learning from clinical incidents. Successive SLEs showed: • Significant improvement in quality (increase in Excellent grading 28.6-50%). • More detailed free-text comments on clinical skills. • More specific free text comments on generic skills including communication skills and professionalism. The ES/Trainee feedback: • Overwhelmingly positive; valued the process.

**Discussion and Conclusions:** A simple structured framework to assess ESR and SLE quality during ARCPs can provide useful formative feedback to ES and this significantly improves quality of successive reports. The ESR quality work has now been rolled out regionally at HEE NW and nationally through the Joint Royal Colleges of Physicians Training Board.

**Take-home Messages:** Quality of ESRs and SLEs can be improved significantly by using a structured framework during ARCPs which provides useful targeted formative feedback to ES.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM11 (57)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The establishment and evaluation of ultrasound assessment modules in emergency junior residents

#### AUTHOR(S):

- Wan-Ching Lien, National Taiwan University Hospital, Taiwan (Presenter)
- Chih-Heng Chang, Jin-Shan branch, National Taiwan University Hospital, Taiwan

#### ABSTRACT

**Background:** Introduction: Ultrasound performance is one ability, being one of the milestones for emergency medicine residentship. However, there is still no standardized assessment tools for point-of-care ultrasound (POCUS) to evaluate emergency physicians ability in Taiwan. The purpose of this study is to establish POCUS competency assessment modules for junior emergency physicians.

**Summary of Work:** From August 2016 to July 2018, the emergency medicine residents of the National Taiwan University Hospital, were enrolled. The core applications were chosen by the expert committee, including focused assessment of sonography for trauma (FAST), renal ultrasound, abdominal aorta and ultrasound-guided vessel puncture. One investigators completed the objective structured clinical examination (OSCE) assessment at the scene and the other used recorded videos. The reliability and validity were investigated.

**Summary of Results:** There were 9 junior residents in the study. The globe rating score using 5-point Likert scales of FAST, renal ultrasound, abdominal aorta and vessel puncture were 3.70, 4.20, 3.45, and 3.67, respectively. The intra-class correlation coefficients were 0.74 (95% C.I., 0.38~0.92), 0.84 (95% C.I., 0.63~0.95), 0.86 (95% C.I., 0.68~0.96) and 1, respectively. The construct validity, using Spearmans correlation coefficients, of FAST, renal ultrasound, abdominal aorta and vessel puncture were 0.59 (95% C.I., 0.30~0.86), 0.65 (95% C.I., 0.31~0.90), 0.75 (95% C.I., 0.23~0.95) and 0.62 (95% C.I., 0.17~0.81), respectively.

**Discussion and Conclusions:** The established POCUS assessment modules exhibited good reliability and fair validity. This pioneer study can provide experience of POCUS competency assessment and contribute to current medical education. Moreover, it can establish unique EUS competency assessment modules for the accreditation of emergency medicine to improve quality of care.

**Take-home Messages:** The established assessment tools for point-of-care ultrasound (POCUS) to evaluate emergency physicians ability in Taiwan are feasible.



## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM12 (1590)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

**What are the social factors with greater incidence in the training process of resident physicians which contribute to the improvement of their professional performance?**

#### AUTHOR(S):

- Haydee Parra- Acosta, Universidad Autónoma de Chihuahua, Mexico (Presenter)
- Julio César Gómez-Fernández, AMFEM, Mexico
- Luis Carlos Hinojos-Gallardo, Universidad Autónoma de Chihuahua, Mexico
- José López-Loya, CIFE, Mexico
- Bertha O Larrinua-Pacheco, Universidad Autónoma de Chihuahua, Mexico
- René Nuñez-Bautista, Universidad Autónoma de Chihuahua, Mexico

#### ABSTRACT

**Background:** The objective of this research is to identify the social factors with more incidences in the training process of resident physicians that contribute to improvement of their professional performance.

**Summary of Work:** An observational cross-sectional study was designed. The sample was composed by 212 resident physicians from 15 specialties offered by Faculties and Schools of Medicine, associated to AMFEM. Residents answered a questionnaire that included eight nominal variables and 109 variables adapted from different instruments. Variables were measured with a Likert scale of 0 to 6. Content instrument validation was carried out using the expert judgment technique (Parra, Garay and Aguilar, 2018). Its internal consistency was validated with a pilot group of 30 residents, obtaining  $\hat{\alpha} = 0.94$ . The analysis of the information was made by descriptive and inferential statistics with a  $p < 0.01 - 0.05$ .

**Summary of Results:** It was observed that, from 212 resident physicians: 83 were men and 129 women. This study highlighted that during their training process, residents considered: respecting the ideas of others (5.25), learning to relate to patients and professors (5.23) and feeling their integrity protected while interacting with their peers (4.90). In the correlational analysis it was observed that, the stronger interpersonal relationships, the less authoritarian the professors are ( $r = .210$ ), less ridiculed by them ( $r = .235$ ), and feel, less tired ( $r = .181$ ), less frustrated ( $r = .291$ ) and less dissatisfied by their work ( $r = .254$ ). Likewise, the results of two linear regression models showed that, by respecting the ideas of others, predicts with a 78% an adequate preparation of resident physicians. In the same way, respecting the ideas of others and feeling their integrity protected while interacting with their peers, improves by 60% the humanistic performance towards their patients.

**Discussion and Conclusions:** Respect in the interpersonal relationships is a protective social factor in the training process for resident physicians, because it reduces the burnout and the possibility of being mistreated by their professors (clinical tutors), as reported in several studies (De Torres, 2016, Hamui-Sutton, et al., 2016).

**Take-home Messages:** It is important to promote a respectful educational environment during the training process for resident physicians to improve a humanistic professional performance with patients.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM13 (1833)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### The Outcomes of a Post-Graduate Year Nursing Training Program at a Medical Center in Taiwan

#### AUTHOR(S):

- Hsiu-Yueh Wu, The Office of Nursing Staff Training, Department of Nursing, Kaohsiung Medical University Hospital, Taiwan (Presenter)
- Yu-Mei Hsin, Department of Nursing, Kaohsiung Medical University Hospital, Taiwan
- Yu-Ying Wang, Department of Nursing, Kaohsiung Medical University Hospital, Taiwan
- I-Kai Liao, Department of Nursing, Kaohsiung Medical University Hospital, Taiwan
- Shu-Chuan Hsieh, Department of Nursing, Kaohsiung Medical University Hospital, Taiwan
- Bih-O Lee, Kaohsiung Medical University & Kaohsiung Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Under Taiwan's health policy, a two-year post graduate year (PGY) training program has been promoting for medical personnel including nurses. The program outcomes are important for hospital and nurse manager, and need to be examined. The aim of this study was to evaluate the outcome of PGY training for trainees from novices to proficient nurses by setting up objectives by phases.

**Summary of Work:** This PGY training was conducted from 2016 to 2018 in southern Taiwan. Participants were new nurses who had a four-year bachelor degree. A total of 82 trainees participated in the program with four-phase plan. The first phase was a 9-day hospital orientation training. The second phase was a 3-month clinical skills training. The third phase was a 9-month core competency training. The fourth phase was a 12-month advanced nurse training. Outcome of each phase was evaluated by clinical preceptor using a three domain scale including "Attitude" (6 items), "Skills" (8 items), and "Knowledge" (5 items) ranged from 1 to 9 with higher score indicating more proficient. A seven-item self-report scale was completed by the trainee at each stage.

**Summary of Results:** The outcomes from this program were: First, nursing skills including "nursing care plan ability", "care quality control", "treasury management", and "professional role" were significantly improved in the second phase. Second, core competency related to "maintaining patient safety" was greatly improved by using evaluation tool such as Min-Cex in the third phase. Third, trainees developed better interpersonal communication and inter-professional collaboration through evidence-based practice, reflection skills and interdisciplinary case study in the fourth phase. Last, a radar chart combined with the four-phase outcomes and self-report scores was created by each trainee.

**Discussion and Conclusions:** This program aimed to evaluate the outcomes of the two-year PGY training program. The trainees, clinical preceptors, and hospital learning center worked together to achieve the objectives of the program. By using multiple teaching strategies and multiple assessments, this program did have positive effects for trainees, and it can be used to train competent nurses in the future.

**Take-home Messages:** The two-year post graduate year training program did have positive effects for new nurses, and could be promoted in different hospitals or countries.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM14 (1407)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Cross-Site Working (CSW) in North West London (NWL) - What Do Doctors Think?

#### AUTHOR(S):

- David Whittaker, Chelsea and Westminster Hospital NHS Foundation Trust, UK (Presenter)
- Christina Cotzias, Chelsea and Westminster Hospital NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Multiple site units are more common as Hospital Trusts expand and integrate with neighbouring hospitals. Doctors in post-graduate training (DiPGT) are often required to work across multiple sites to optimise training opportunities and provide service. Within NWL, only one acute trust is a single site unit. The survey aim was to capture trainee opinions on CSW to help optimise CSW models.

**Summary of Work:** A survey of 11 questions asking about CSW was sent online to all DiPGT, across all grades and specialties in NWL.

**Summary of Results:** 60.5% (101/167) of those surveyed had worked across multiple sites in their current job, with the majority for day to day duties only. 16.8% (28/167) undertook CSW because of exceptional clinical demand, yet 40.1% (67/167) had done so for their own educational benefit. 76% (127/167) would like to work cross-site to benefit their training, with 64.1% (107/167) believing that CSW would help with curriculum completion. Respondents indicated that cross-site policies, clinical pathways, ID badges, inductions and IT systems, and provision of transport, would make CSW easier. 75.4% (126/167) of DiPGT cited lack of familiarity as a reason for not doing locums at other hospital sites, and this was raised as a significant concern for CSW.

**Discussion and Conclusions:** The majority of trainees surveyed have worked cross site, and felt it could benefit their training by improving achievement of curriculum competencies. Concerns raised by trainees included hours of work (including travel time), lack of continuity of patient care and lost educational and clinical opportunities. DiPGT in NWL recognise the educational benefits of CSW and we have captured a range of experiences, concerns and recommendations in relation to CSW. This survey will help improve future CSW models for trainees and hospitals to balance training needs with service provision.

**Take-home Messages:** DiPGT recognise the benefits of CSW and, with planning, service needs can be met and training opportunities maximised.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM15 (3180)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluating the introduction of a ten-minute teaching session format in a Critical Care Unit

#### AUTHOR(S):

- Jonathan Dunne, The Royal Marsden NHS Foundation Trust, UK (Presenter)
- Timo Tolppa, The Royal Marsden NHS Foundation Trust, UK
- Sarah Brown, The Royal Marsden NHS Foundation Trust, UK
- Kate Tatham, The Royal Marsden NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Organising teaching in a critical care unit (CCU) is challenging due to varying patient acuity and unpredictability of the workload. Additionally, the breadth of critical care knowledge makes it difficult to cover all topics relevant to doctors of differing grades and prior experiences. In our 16-bedded CCU of a tertiary cancer hospital, junior trainees received weekly one-hour seminars. Due to clinical demands, the regularity and attendance at teaching varied.

**Summary of Work:** We implemented thrice weekly ten-minute teaching sessions as part of the morning multi-disciplinary handover. The aim was to evaluate the impact of this change on the number of sessions, breadth of topics and educational value to trainees. The programme was evaluated with a semi-structured questionnaire at baseline and 16 weeks post-implementation with a new group of doctors. The survey included questions on session length, quality, topics and usefulness.

**Summary of Results:** A total of 17/18 trainees (94.4%) completed the questionnaire with nine responses at baseline and eight post-intervention. Attendance at more than six teaching sessions each month improved post-intervention (0% vs. 50%,  $p=0.04$ ). Sessions delivered by the multidisciplinary team (MDT) increased from  $0.3 \pm 0.5$  to  $2.0 \pm 1.8$  ( $p=0.02$ ). The baseline group felt there were too few sessions on CCU-specific topics (55.6%), data analysis (88.9%) and management of emergencies (100%). This perception improved for all three topics post-intervention ( $p<0.05$ ). The perceived usefulness of teaching reduced post-intervention (100% vs. 50%,  $p=0.03$ ).

**Discussion and Conclusions:** The number of sessions and topics covered improved significantly with the introduction of ten-minute teaching. The new timing allowed more trainees and MDT members to attend and deliver teaching sessions. The programme was, however, associated with a reduction in perceived usefulness. Therefore, ten-minute teaching may be appropriate for supplementing longer sessions to ensure exposure to more topics but may not be sufficient to cover the depth of knowledge for all learners.

**Take-home Messages:** Bite-size teaching is useful for covering a wider-range of CCU topics. Incorporating teaching into multidisciplinary handovers improves MDT involvement in teaching and regularity of sessions. Ten-minute teaching does not replace the need for seminars on more advanced CCU-related material.

## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM16 (991)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluate the impact of training for shared decision making in kidney transplantation

#### AUTHOR(S):

- **Mei-Yi Wu, Shuang Ho Hospital, Taipei Medical University, Taiwan (Presenter)**
- Tzu-Hsuan Lu, Medical Quality Department, Shuang Ho Hospital, Taipei Medical University, Taiwan
- Lung Chan, Department of Neurology, Shuang Ho Hospital, Taipei Medical University, Taiwan
- Ka-Wai Tam, Division of General Surgery, Department of Surgery, Shuang Ho Hospital, Taipei Medical University, Taiwan
- Yih-Giun Cherng, Department of Anesthesiology, Shuang Ho Hospital, Taipei Medical University, Taiwan
- Mai-Szu Wu, Shuang Ho Hospital, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** The aim of shared decision making (SDM) is that healthcare professionals provide the detail information of disease and treatment options which are based on the individual experience and the best external evidence before patients make their decision. For example, healthcare professionals provide detailed pros and cons for all possible treatments, so patients could make decision properly and easily. Patients and healthcare professionals discuss the issue and solution continuously. Finally, patients select the properly treatment according to the patient decision aids (PDAs), coaching, and personal considerations.. The application of SDM will improve the quality of health care.

**Summary of Work:** The present study was to promote the concept of SDM to improve the skills of clinical practice and communication for the post-graduate year students. The courses were including the lecture, comprehensive literature review, and practice; therefore, students can fully understand the concept of SDM, conduct the PDAs, and apply to clinical practice. Finally, we evaluated the effects of training courses for SDM.

**Summary of Results:** We used the topic of kidney living transplantation (KT) to complete the course. While the lecture of SDM and comprehensive literature review were finished, we completed the PDAs for living KT. We applied the PDAs to clinical practice, and we trained students to make PDAs, such as detailed pros and cons for all possible treatments, for patients. We observed that students who received these training courses learned better than those did not. In addition, we observed that students were actively involved in the training period of clinical practice for SDM, and they continuously dealt with the difficulties well.

**Discussion and Conclusions:** We observed that the performance of clinical practice among students who involved in the training project for SDM were better than those did not. It met the expectation that practice makes perfect; therefore, we suggested that post-graduate year students should take these courses for SDM to enhance their skill and enrich their clinical experience.

**Take-home Messages:** Based on the consideration of performance, clinical practice, clinical experience, training courses for SDM is benefit to the post-graduate year students.



## #8MM Posters - Postgraduate: Evaluation of the trainee and the programme

### 8MM17 (1430)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1400-1530

**Location of Presentation:** Hall/Foyer F, Level 0

### Transforming Learning Outcomes for Innovative Curricula

#### AUTHOR(S):

- Anna Maria Jones, Imperial College London, UK (Presenter)
- Latha Ramakrishnan, Imperial College London, UK
- Jeffrey Vernon, Imperial College London, UK
- Sophie Rutschmann, Imperial College London, UK

#### ABSTRACT

**Background:** In light of a newly launched Learning and Teaching Strategy, Imperial College London has been undergoing curriculum review of the majority of its programmes for implementation in October 2019. Postgraduate FoM programmes have been focussing on three main areas, 'AMA': Active Learning, Measurable Learning Outcomes (LOs), and Authentic Assessment.

**Summary of Work:** The Faculty of Medicine (ICL) is the first within the College to initiate curriculum review of all its postgraduate programmes, 16 of which are healthcare related. As part of this, we, the postgraduate education team, have been encouraging the development of measurable and high-level LOs that focus on cognitive skills rather than content, that clearly align to assessment, to empower students in their learning.

**Summary of Results:** Prior to the curriculum review process, many programmes relied upon language such as 'understand' and 'appreciate' within their LOs, both difficult to measure and low-level for postgraduate study (according to the framework provided by Bloom's Taxonomy). Revised programme LOs are now both clearly measurable and reflect high-level cognitive skills, incorporating tasks such as 'evaluate', 'critique' and 'design'. These LOs further challenge our postgraduate students in their critical thinking, problem solving, innovation, independent learning and personal/ professional identity, in order that they might best fulfil ICL's Graduate Attributes. Additionally, careful design of measurable and high-level LOs capture what students will do and achieve within a programme, in line with active learning.

**Discussion and Conclusions:** Despite some programmes considering development of LOs to be simply semantics, it has been an educational experience for teaching staff, shifting their thinking to become more student-centred, i.e. 'what skills are my students going to leave with?' rather than 'what facts am I going to deliver on this course?', preparing graduates that are equipped to deal with future global challenges. We will be evaluating the implementation of this curriculum review in the coming years.

**Take-home Messages:** • It is imperative to have strong, clear learning outcomes that truly reflect the programme in order to appropriately set student expectations, particularly where L&T is moving away from 'traditional' teaching towards more innovative approaches. • Staff will need ongoing support, and sharing of good practice, to implement their revised curricula.

## #9A Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Hall A, Level 2

### Embracing CPD diversity. Bridging gaps!

#### Presenters:

Organised by the AMEE CPD Committee:

- Lawrence Sherman, The Academy for Global Interprofessional Learning and Education (AGILE), USA
- Dave Davis, Center for Outcomes and Research in Education (CORE), Mohammed Bin Rashid University of Medicine and Health Sciences (MBR-University), Canada
- Helena Filipe, Faculty of Medicine, University of Lisbon, Portugal
- Three CPD representatives reflecting global diversity

#### Summary of theme and why it is important:

- Welcome, Agenda
- Keynote Speech
- A series of up to three case based short presentations (3 invited global CPD representatives (America, Europe, Africa, Asia, Australia/New Zealand) online/recorded/onsite). Structure: (a) Region CPD Case picture; b) Challenges ahead, c) Plan to overcome them, d) How will your region's CPD look in 10 years)
- Audience Participation: share a different experience and personal views
- Summary and wrap up

**Who should participate in the symposium?** All AMEE members and non-members onsite or online with or likely to have a leadership role and responsibilities in Continuing Professional development (CPD) and all those finding interest in CPD.

#### What will they gain from participating?

- Better insight on CPD span and complexity
- Broader perspective on diverse ways of running CPD
- Reflect on the future of CPD - CPD in the future
- Approach the AMEE CPD SIG and Committee



## #9B Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Hall C, Level 2

### Teaching and Engaging the Millennials: What has changed?

**Presenters:**

Matthew Choon Eng Gwee, National University of Singapore, Singapore

Shuh Shing Lee, National University of Singapore, Singapore

Erle Chuen Hian Lim, National University of Singapore, Singapore

Gary D. Rogers, Griffith University, Queensland, Australia

Anthony Adefuye, University of Free State, South Africa

**Summary of theme and why it is important:** The millennials, also referred to as Generation Y, and Generation Z (post-millennials) are now in your classroom, cafeteria, wards and clinics. They are now interacting with you and your colleagues as well as helping you and your colleagues in your work setting. Born after 1982, their characteristics have been found to be different from Baby Boomer and early Generation X. Notable differences that define this generation are: lack of professional boundaries influenced by socialisation, a need to have immediate feedback, a sense of entitlement, unrealistic expectations and an anticipation of a “how to guide” to succeed in and out of the classroom. They are also digital natives and use technology for most of their learning as well as interactions. It is well known that the present day instructors who are mostly Baby Boomers and Generation X need to change their strategies to engage the new learners. For this, the use of a wide array of instructional delivery methods is critical. The symposium will focus on the characteristics of millennials, how they learn and how to engage them effectively in the learning process be it in a clinical or classroom environment and how to train our faculty to equip with the skills required to teach these students.

**Who should participate in the symposium?** Everyone from different health professions education especially educators and leaders.

**What will they gain from participating?** After attending this symposium, the participants will gain an understanding on the following:

- Characteristics of the millennials in learning
- Methods to effectively engage the millennials in learning environment
- Faculty development approaches to equip the faculty with the necessary skills to support the learning process of the millennials

## #9C Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Hall N, Level 1

### Local responses to the complexities of European Medical Education: Dealing with globalization, migration and increased mobility

**Presenters:**

Richard Marz, Medical University Vienna, Austria

Janusz Janczukowicz, Medical University of Lodz, Poland

Marius Raica, Medical University of Timisoara, Romania

Anca Dana Buzoianu, Medical University of Cluj-Napoca, Romania

Ferenc Bari, University of Szeged, Hungary

Cosmin Sinescu, Medical University of Timisoara, Romania

Thikiri Yee, Medical University of Lodz, Poland

Michael Ramirez, medical student from the USA studying in Szeged, Hungary

**Summary of theme and why it is important:** Many medical students receive their education at universities located outside their country of origin, most of them because of capacity limitations at home. Drawn by better opportunities – perceived or real - they and many other graduates leave the country in which they received their training to practice medicine in yet other countries. The European Union has made mobility inside its borders rather easy but has issued little guidance to standardise the outcomes of medical education. Thus, individual universities are left to struggle on their own to triangulate national needs and expectations, international demands, and regulatory requirements. A very complex intersection of local, European and overseas licensing requirements characterizes numerous medical courses for non-European students. The symposium will explore how medical universities in Romania, Hungary, and Poland are responding to the challenges posed by globalization, migration and increased mobility.

**Who should participate in the symposium?** Those willing to consider the global political implications of educational issues.

**What will they gain from participating?** The issues raised are urgent and include educational as well as political aspects. Participants will gain needed information to join the in-depth discussion at an international level which must follow.

## #9D Symposia

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1730

**Location of Presentation:** Room L3, Level 1

### Pearls from the Surgery Track Sessions

**Presenters:**

- Paul Lai, College of Surgeons of Hong Kong, Hong Kong
- Helen MacRae, University of Toronto, Canada
- Bonnie Miller, Vanderbilt University Medical Center, USA
- Ajit Sachdeva, American College of Surgeons, USA (Moderator)

**Summary:** Take home messages relating to current best practice in surgery education and cutting-edge trends, with contributions from other members of the Surgery Track Committee and the symposium audience.





## #9E AMEE Fringe 2

### 9E1 (2616)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Hall M, Level 1

### Pineapple Tarts: A multi-sensory neuroscience exploration of an Asian gustatory experience

#### AUTHOR(S):

- Derek Soon, National University Health System, Singapore (Presenter)
- Chelsea Chia, National University Hospital, Singapore
- Leonard Yeo, National University Health System, Singapore
- Dow Rhoun Koh, Yong Loo Lin School of Medicine, Singapore

#### ABSTRACT

**Background:** Neuroscience in the traditional undergraduate medical curriculum is taught in terms of anatomy, physico-chemical relations (neurotransmitters) and pathology (neurological illnesses from stroke to MS). With few exceptions, the neuroscience underpinnings of lived, everyday experience, are rarely, if at all explored in a meaningful, experiential way.

Moreover, in some medical schools, food is (mystifyingly) prohibited in the learning environment (due to a novel concept: “hygiene”). Learners consequentially experience sessional hunger pangs, and it is not unknown for some learners to become hangry with neurology.

**Activity:** This fringe, we would like to deliver our latest addition to the neuroscience curriculum, entitled “Pineapple Tarts”

Each learner will be given a delicious Singaporean confectionary (said pineapple tart).

The Portuguese and South American origins of this uniquely southeast-Asian dessert will be investigated, before embarking on a multi-sensory exploration of the experience of eating. The use of each of the 5 senses is explored in the process of looking at, smelling, tasting, chewing (mouthfeel) and swallowing the tart. Relevant neuro-anatomical pathways are highlighted, as are their connections with other sensory pathways and with deep brain structures involved in emotions and memory formation.

We summarise, as the brain does, by integrating the 5 senses in a unified experience, culminating in an orgy of dopamine fuelled nucleus accumbens activation.

**Objective:** Through this and similar lectures in the “special senses” series, we link lived experiences with underlying neurological processes, affording the learner a deeper appreciation of what is lost when these processes are disrupted. Also, munchies are avoided and nobody is hangry (provided there are enough tarts for everybody).

We would like to thank the Austrian Customs and Immigrations department for allowing our tarts through.

## #9E AMEE Fringe 2

### 9E2 (1846)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Hall M, Level 1

### Aussiewood Downunder! Using musical comedy to educate doctors

#### AUTHOR(S):

- Katrina Anderson, Australian National University Medical School, Australia (Presenter)

#### ABSTRACT

Can comedy and musical theatre take learners and medical educators somewhere new in the context of healing and patient care. GP the Musical was first performed by a group of GP medical educators from across Australia at a medical education conference in Melbourne. Written by Dr Genevieve Yates and Dr Gerard Ingham, and directed by Dr Katrina Anderson the musical critiques the art of the doctor patient consultation and brings a compassionate gaze to the various perspectives of doctors and patients within a family medical practice. The musical was originally written for a doctor audience but mainstream audiences embraced it with sold out shows at commercial venues. What can a musical comedy teach students and trainees about patients? What can a musical comedy teach patients about doctors? What do our patients talk about in the waiting room? Could it be that patients are healing each other through dancing and singing? Come along to this fringe presentation to be entertained by moments and songs from this amazing musical and get some fresh ideas to engage students and trainees in the complexity of life as a family doctor. Hollywood and Bollywood eat your heart out! - we have "Aussiewood Downunder!"



## #9E AMEE Fringe 2

### 9E3 (621)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Hall M, Level 1

### I will NOT see you in court: What we can learn from the legal history of medical negligence

#### AUTHOR(S):

- Katie Macdonald, University of Bristol, UK (Presenter)

#### ABSTRACT

Treating any patient requires those in charge to make hundreds of decisions every day: What does this person need? How do I diagnose? What's the best treatment? However, the recent media attention on the seemingly phenomenal rise of compensation claims against doctors means perhaps we should focus on another question: Could I get sued for this? It may feel that every other week, another medical negligence case is splashed across headlines. The frenzy surrounding medicolegal news mounts pressure on doctors and medical students. The worry of being brought before a judge from a simple mistake could have anyone asking themselves: it could happen to anyone, so it could probably happen to me, right? No! This presentation aims to assuage your fears by providing a basic knowledge of the legal cases that have defined medical negligence and show that getting sued is an unlikely and easily avoidable event. This presentation will take the audience through the rich, complicated, and occasionally bizarre history of medical law; delving into the cases that have shaped the standards that we now uphold doctors to around the world. From an Australian doctor forced to financially support a child born as a result of his negligence, to a group of sadomasochists in Britain redefining the term "assault": medical law must be heard to be believed. This entertaining presentation aims to inform and amuse. I'll outline three key - slightly ridiculous - cases that have shaped the way we practice medicine. I aim to show people that most medical negligence cases derive from situations that are honestly avoidable, but with the right awareness of the laws and responsible medical practice, you need not worry about being sued ever again!



## #9E AMEE Fringe 2

### 9E4 (838)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Hall M, Level 1

### Can dance teach doctors?

#### AUTHOR(S):

- Deva Priya Appan, National Healthcare Group, Singapore (Presenter)
- Sharavan Sadasiv Mucheli, National Healthcare Group, Tan Tock Seng Hospital, Singapore

#### ABSTRACT

In recent years, there have been increasing reports of burnout amongst young doctors. Several studies have used the Maslach Burnout Inventory (MBI), a valid and reliable tool to measure occupational burnout. MBI measures dimensions, such as emotional exhaustion, depersonalization, cynicism, and loss of personal accomplishment. Amongst these, high rates of emotional exhaustion (in up to 32% of Australian doctors) were found in the beyond blue national mental health survey. A study by Kumar et al found that psychiatrists may be at high risk for burnout due to various factors. I strongly believe that creating more opportunities for self-awareness, and empathy early in one's medical career could help to alleviate the risk of burnout. How should that be done? Some medical educators have suggested that humanities are essential for physicians to empathize with patients, themselves and with the cultures they practice in. As a psychiatry trainee with experience in Bharatanatyam (a classical Indian dance form), I will present a case for including performing arts such as dance in the medical education curricula. This presentation will include a live dance excerpt followed by audience participation with the use of some dance techniques. There will be a short dialogue with the participants on their perceptions. I would then reflect on my personal journey with video excerpts from a recent dance project on mental illness and how it enriched my professional development.

## #9E AMEE Fringe 2

### 9E5 (1640)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Hall M, Level 1

### Laughing to learn, our new experience in morbid anatomy

#### AUTHOR(S):

- Cristian Stefan, New York University College of Dentistry, USA (Presenter)
- Maira du Plessis, St George's University Grenada, Grenada
- Robert Hage, St George's University Grenada, Grenada

#### ABSTRACT

Having to learn gross human anatomy stiffens up many students. They find it overwhelming, smelly and just too much (to remember) in the time allocated. At SGU we have roughly 900 first term students and our imagination has worked towards making anatomy fun while still educational for both students and faculty. By starting the labs with a 10-minute interactive 'fringe' session, with faculty as players and students as active audience participants, we have received much positive feedback. The concept is to get across the 'must know' and/or difficult to grasp facts by anchoring them to a pleasant experience. The faculty members are viewed as active role players in knowledge transfer, with the wider implications of bridging a generation gap and increasing approachability and enjoyment.

In the lab, in batches of 150 students, we act out difficult concepts before they split up in groups of six students and rotate through six stations in just under two hours. Yes, we demonstrate how to catheterize a male patient which students will never forget, and the peritoneal folds in the female pelvis, to name a few examples.

Anatomy is an integrative subject necessary to becoming a good physician and our 'fringe' sessions incorporate anatomy with observation, narration and palpation. Sit back and imagine being a stressed first term student in an anatomy lab who studied all night and is still not confident with the high yield topics for next week's exam. We take the fear away and offer knowledge and fun..





## #9E AMEE Fringe 2

### 9E6 (3355)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Hall M, Level 1

### Health professions education: The Musical!

#### AUTHOR(S):

- **Shelley Ross, University of Alberta, Canada (Presenter)**
- Brent Kvern, College of Family Physicians of Canada, Canada
- Lyn Sonnenberg, University of Alberta, Canada
- Shirley Schipper, University of Alberta, Canada

#### ABSTRACT

Health professions education has seen huge changes in recent years. Approaches to training are being scrutinized, and all aspects of training are being reconsidered in the light of emerging evidence for or against the value of current practices. The relenting onslaught of change can feel overwhelming: educators must now do competency-based medical education! They must change their assessment practices! Wait - they are not educators, they are coaches! Sometimes, you just wish it was yesterday, when all your troubles seemed so far away ... Yes, that's right, in this session we will address recent changes in health professions education through the universal medium of the MUSICAL. Join us on a very whirlwind tour of changes to assessment, curriculum, learner-centeredness, relationships, outcomes, and expectations conveyed through minor adjustments to the lyrics of some familiar tunes. While the medium is novel, the message is intended to be useful. Managing expectations is a key part of change management, and our intent is to present some of the perspectives of educators and learners as health professions education is transformed around them. These perspectives can help health professions innovators to consider where there may be obstacles and enablers in transforming education.



## #9F Research Papers - Assessment in Health Professions Education

### 9F1 (50)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1620

**Location of Presentation:** Room L6, Level 1

### Learner Handover: How does it influence assessment?

#### AUTHOR(S):

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#### ABSTRACT

**Introduction:** Learner handover (LH) is the sharing of information about trainees between faculty supervisors. In a competency-based education model, LH should provide a scaffold to allow trainees to grow. However, the potential to bias future assessments has been raised as a concern, and one reason LH has not been widely implemented in North America. Psychology studies suggest that when prior performance information is provided to a rater, one of three possible results or “context effects” may occur: there may be bias toward the direction of the previous performance level (i.e., assimilation effect); bias away from the direction of the previous performance level (i.e., contrast effect), or no effect whatsoever(1). Assimilation effects are favored when the information was provided in an indirect manner, that is, from another source(2). This study aimed to determine whether LH, a form of indirect prior performance information, influenced assessment in the clinical context.

**Methods:** Faculty raters (n=42) were randomized to 1 of 3 groups. All raters viewed the same 6 simulated resident-patient encounter videos in the same order. In a counter-balanced design, each group received either positive (PLH), negative (NLH) or no LH/control (C) prior to each video then rated the performance using the Mini-CEX. The Mini-CEX includes seven 9-point rating scales to allow for assessment of several different competencies, and only those competencies relevant to the encounter were provided. Following these ratings, a questionnaire focused on raters’ perception and use of LH was completed.

For the purposes of the study, the LH was a brief written summary from the program director with NLH reflecting a resident with multiple areas needing improvement, and PLH reflecting a resident performing well above his or her peers. The videos used depicted average resident performances involving patients with a variety of medical issues. A Mini-CEX scale mean was created by calculating the average of the ratings on individual items for each rater by video. Mean and overall competence ratings were analysed using a factorial ANOVA. Content analysis was performed on questionnaire responses.

**Results:** The Mini-CEX mean ratings for each group across all videos were as follows: 5.29 NLH, 5.72 C and 5.97 PLH  $p=.01$ ,  $\eta^2=.126$ . A post-hoc analysis (LSD) demonstrated a significant difference between the negative and the positive groups (Cohen’s  $d = 0.81$ ,  $p < .001$ ) with no difference between the control and positive groups (Cohen’s  $d = 0.3$ ,  $p = .37$ ) or the control and negative groups (Cohen’s  $d = 0.56$ ,  $p = .11$ ). Similar findings were found for the single overall competence ratings. In the post-study questionnaire, 23/28 (82%) of faculty had correctly guessed the purpose of the study and 19/28 (68%) felt the LH information was credible. Although several expressed concerns about its potential to create bias, 14/24 (58%) felt it did not influence their assessment.

**Discussion & Conclusions:** In keeping with the psychology literature, LH led to an assimilation effect; faculty provided with NLH generated lower scores than faculty provided with PLH after viewing the same performances. This may suggest that the provision of prior performance information about a trainee could influence a rater’s performance assessment. Moreover, this effect was noted despite raters’ awareness of the potential for bias. These results suggest careful consideration of the potential implications on LH use in clinical assessment.

Recipient of a 2017-2018 AMEE Research Grant Award.

#### References:

1. Smither, J.W., Reilly, R.R., & Buda, R. (1988). Effect of Prior Performance Information on Ratings of Present Performance: Contrast versus Assimilation Revisited. *Journal of Applied Psychology*, 73(3): 487-496.
2. Humphrey-Murto S, LeBlanc A, Touchie C, Pugh D, Wood TJ, Cowley L, Shaw T. The influence of prior performance information on ratings of present performance: Implications for learner handover: A Scoping Review. *Academic Medicine* October 2018 (in press).

## #9F Research Papers - Assessment in Health Professions Education

### 9F2 (90)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1620-1640

**Location of Presentation:** Room L6, Level 1

### Does the Opportunity to Reflect and Revisit during a Clinical Skills Exam Improve Students' Clinical Reasoning? Multicenter studies conducted at George Washington (GW), Jefferson, and University of Illinois, Chicago Schools of Medicine

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#### ABSTRACT

**Introduction:** Though reflection is valued in clinical medicine, little empirical evidence exists to support its impact on performance.<sup>1</sup> Clinical skills exams (CSEs) are opportune for exploring reflection outcomes.<sup>2</sup> Typically, in CSEs students visit each standardized patient (SP) once. However, students' thinking may deepen if, after reflecting while writing their patient note (PN), they revisit their patients to further explore differentials. This study explored the effects of both live and virtual revisits on clinical reasoning. Aims: 1) examine the effect of a live revisit on students' diagnostic reasoning; 2) compare the clinical reasoning effect of a live revisit with the more feasible virtual revisit; 3) examine the effect of both on assessment psychometrics.

**Methods:** In spring 2017, 251 GW and Jefferson students and 179 UIC students conducted live and virtual revisits respectively during an end-of-third-year CSE. All students had 15 minutes for a focused history, physical and counseling and 10 minutes to write a USMLE-style PN. Live revisits added 5 minutes to revisit the patient and 5 minutes to complete a revisit questionnaire; virtual revisits added 5 minutes to complete the questionnaire. The questionnaire: "List up to 3 additional history questions or physical examination maneuvers that (live: you asked) or (virtual: you would like to ask) to clarify your differential diagnosis. Explain how this information would help you." Trained faculty used the UIC PN rubric to score patient notes, and a Revisit Rubric to rate the diagnostic relevance and rationale of revisit items. Results Live revisit: students listed additional H&P items in 59% (302/513) of revisit opportunities. Of the 547 items requested across cases, 107 (20%) were key to the diagnosis of the case, 357 (65%) were relevant but not key, and 83 (15%) were irrelevant. 306 rationales were provided: 216 (71%) were correct or partially correct. If the items listed had been included in the PN, 45 (15%) would have resulted in an increased score, 3 (1%) in decreased scores and 254 (84%) in no change. Virtual revisit: students listed additional H&P in 81% (373/463) of revisit opportunities. Of the 756 items requested across cases 148 (20%) were key, 454 (60%) were relevant but not key and 154 (20%) were irrelevant. 714 rationales were provided: 651 (91%) were correct or partially correct. If the items listed had been included in the PN, 98 (26%) would have resulted in an increased score, 17 (6%) in decreased scores and 258 (68%) in no change. There were no significant correlations between revisit scores, H&P checklist scores, or PN scores. Including revisit scores increased the variance associated with Person-Case interaction (case specificity) and decreased the reliability (Generalizability) of the CSE scores: G-Coefficient .32 to .13 and phi-Coefficient .21 to .10 in live and virtual revisits, respectively.

**Discussion and Conclusions:** In both live and virtual revisits, reflection while writing the PN resulted in most students identifying additional key/relevant H&P items, promoting diagnostic reasoning. Reduced reliability when including revisit scores may be from giving students more time to think of additional items, decreasing inter-student score differences resulting in more homogeneity. Virtual revisits require less time and may be more feasible than live revisits for busy clinical skills centers. Use depends upon training objectives: to optimize clinical outcomes is it more important to train students to reason in situ or to further calibrate their reasoning through reflect-revisit?

#### References:

1. Winkel, A.F.: Reflection as a Learning Tool in Graduate Medical Education: A Systematic Review. *Journal of Graduate Medical Education* 2017; 9 (4):430 - 439.
2. Blatt, B., Plack, M., Maring, J., Mintz, M., & Simmens, S. J.: Acting on Reflection: The Effect of Reflection on Students' Clinical Performance on a Standardized Patient Examination. *Journal of General Internal Medicine* 2007; 22(1), 49. doi:10.1006/s11606-007-0110-y

## #9F Research Papers - Assessment in Health Professions Education

### 9F3 (121)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1640-1700

**Location of Presentation:** Room L6, Level 1

### How teacher-learner relationships influence the learning potential of low-stake assessments - An international study within programmatic assessment

#### AUTHOR(S):

- Suzanne Schut, Maastricht University, Maastricht, The Netherlands (Presenter)
- Jan van Tartwijk, Utrecht University, The Netherlands
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- Cees van der Vleuten, Maastricht University, The Netherlands
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#### ABSTRACT

**Introduction:** Low-stake assessments are theorised to stimulate and support self-regulated learning. The use of low-stake assessment as a learning opportunity requires an environment in which continuous improvement is encouraged. This may be hindered by learners' perceptions of assessment as high-stake. Teachers play a key role in influencing learners' assessment perceptions [1]. By investigating assessment perceptions through an interpersonal theory-based perspective of teacher-learner relationships, we aim to elucidate these mechanisms within the medical assessment culture.

**Methods:** An qualitative approach to data gathering and analyses inspired by constructivist grounded theory approach was used to analyse the data and reveal underlying mechanisms influencing learners' perceptions. First, twenty-six purposefully selected learners, ranging from undergraduates to postgraduates in five different settings of programmatic assessment, were interviewed about their assessment task perception [1]. Next, we conducted a secondary analysis using sensitising concepts from interpersonal theory [2] to elucidate the influence of the teacher-learner relationship on learners' assessment perceptions.

**Results:** The study showed a strong relation between learners' perceptions of the teacher-learner relationship and their assessment perception. Two important sources for the perception of teachers' agency emerged from the data: positional agency and expert agency. Together with teacher's communion level, both types of teachers' agency are important for understanding learners' assessment perceptions. High levels of teacher communion had a positive impact on the perception of assessment for learning, in particular in relations in which teachers' agency was less dominantly exercised. When teachers exercised these sources of agency dominantly, learners felt inferior to their teachers, which could hinder the learning opportunity.

**Discussion & Conclusion:** To utilise the learning potential of low-stake assessment, teachers are required to stimulate learner agency in safe and trusting assessment relationships, while carefully considering the influence of their own agency on learners' assessment perceptions. Interpersonal theory offers a useful lens for understanding assessment relationships in the context of medical education. The Interpersonal Circle model [2] provides opportunities for faculty development that help teachers develop positive and productive relationships with learners in which the potential of low-stake assessments for self-regulated learning is realised.

#### References:

Schut S, Driessen E, van Tartwijk J, van der Vleuten C, Heeneman S. Stakes in the eye of the beholder: an international study of learners' perceptions within programmatic assessment. Med Educ. 2018  
 Fournier, M.A., D.S.M. David, and D.C. Zuroff, Origins and Applications of the Interpersonal Circumplex, in Handbook of Interpersonal Psychology. 2012, John Wiley & Sons, Inc. : Hoboken, NJ, USA. p. 57-73.





## #9F Research Papers - Assessment in Health Professions Education

### 9F4 (139)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1720

**Location of Presentation:** Room L6, Level 1

### QI education outside of the clinical setting: A sequential explanatory mixed-methods study of QI training that uses the medical school as the context for improvement

#### AUTHOR(S):

- Lawrence Grierson, McMaster University, Hamilton, Canada (Presenter)
- Aditya Nidumolu, McMaster University, Hamilton, Canada
- Allison Brown, University of Calgary, Calgary, Canada

#### ABSTRACT

**Introduction:** Quality Improvement (QI) is a rigorous approach to reducing errors, mitigating adverse effects, and strengthening the systems that underpin excellent healthcare. Given its importance, QI is now recognized as an educational competency for all future physicians. However, training QI in the clinical is constrained by the availability of time, resources, and faculty. Thus, pre-clerkship is arguably the ideal time to begin QI training. However, for pre-clerkship students, QI education is uniquely difficult because of their lack of exposure and understanding of the clinical context (1). The Program for Improvement in Medical Education (PRIME) is a pre-clerkship extracurricular program that teaches medical students the fundamentals of clinical QI but challenges them to apply these principles in improvement projects that focus on their own education. That is, to consider and describe opportunities for improvement within the context of the medical school system.

**Methods:** A sequential, explanatory, mixed-methods approach was used to examine the impact of PRIME on the development of clinically-contextualized QI knowledge and comfort with QI concepts within 125 medical student participants. This approach combined insights from both quantitative and qualitative methods. To determine the impact of the Program on clinical QI knowledge, participants completed the well-established Quality Improvement Knowledge Application Tool (QIKAT) prior to and following involvement in the PRIME curriculum. To determine the impact of the Program on comfort with QI concepts, participants also completed the Quality Assessment and Improvement Curriculum toolkit (QAIC) prior to and following PRIME. Changes in knowledge and comfort were analyzed by way of independent, paired (PRE, POST) t-tests. To further explore aspects of QI knowledge and comfort, 11 participants engaged in semi-structured interviews regarding their QI experiences throughout PRIME. These were analyzed using qualitative analysis techniques adapted from constructivist methodological approaches.

**Results:** Analysis of QIKAT measures indicated that application of QI knowledge to clinical contexts improved significantly following the Program ( $p < .001$ ), even though the learning activities were not contextualized in the clinical environment. Similarly, the QAIC analysis revealed participants as significantly more comfortable with QI principles following PRIME ( $p < .001$ ). Analysis of the interview responses highlighted the way in which the medical school focus provided a meaningful context for learning QI for students at this stage of training. This fostered a sense of motivation among the participants to engage in QI projects when they matriculate into clinically-situated work. Features of the Program that were considered facilitators of QI learning and an overall positive experience included the team-based nature of the exercises, the available supporting resources (i.e., program handbook), and consistent and regular instructor feedback.

**Discussion:** QI education that is situated within the familiar context of medical education can be effective in developing knowledge and comfort within pre-clerkship learners that has relevance and resonance in the eventual criterion clinical context. These findings are consistent with the notion that training on fundamental concepts that underpin a skilled process can promote transfer of learning into new, more complex contexts (2).



**Conclusion:** The application of QI principles within the familiar context of the medical school allows pre-clerkship learners to develop an understanding of their relevance to clinical applications. In this way, QI training that occurs before clinical exposure represents a potential avenue to nurturing QI competency in a way that optimizes the effective allocation of clinical time and resources.

**References:**

Wong, B. M., Levinson, W., & Shojania, K. G. (2012). Quality improvement in medical education: current state and future directions. *Medical education*, 46(1), 107-119.

Kulasegaram, K., Min, C., Ames, K., Howey, E., Neville, A., & Norman, G. (2012). The effect of conceptual and contextual familiarity on transfer performance. *Advances in health sciences education*, 17(4), 489-499.

## #9G Doctoral Reports 2

### 9G1 (29)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1620

**Location of Presentation:** Room 1.85-86, Level 1

### Clinical teaching on an expanding training platform: designing a fit-for-purpose faculty development framework for emerging clinical teachers in a resource-constrained environment

#### AUTHOR(S):

- Julia Blitz, Stellenbosch University, Cape Town, South Africa (Presenter)
- Marietjie de Villiers, Stellenbosch University, South Africa
- Susan van Schalkwyk, Stellenbosch University, South Africa

#### ABSTRACT

**Introduction:** Increasingly, medical schools are expanding their clinical training platforms beyond traditional academic teaching hospitals in response to imperatives such as increasing numbers of students, offering clinical training that covers the full spectrum of healthcare, and responding to notions of social accountability. With this expansion, is an obligation to maintain the quality of teaching in these new clinical contexts where clinicians play a crucial role in the training of medical students. Faculty development offers a means to strengthen and support this role. However, in resource-constrained environments, where there is a fairly rapid turnover of clinicians who are burdened with caring for large numbers of patients in quite difficult circumstances, it is incumbent upon those responsible for student learning to consider how best to design faculty development offerings for these emerging clinical teachers. Previously we described the journey undertaken by specialist clinicians at a new training site as they took on the role of clinical teacher [Blitz; 2014]. This gave rise to the question of how other clinicians in such situations, might be assisted on this journey, specifically in the context of expanding clinical training platforms.

**Methods:** As we approached this research from an interpretivist stance, qualitative methods were used. Based on Kern's six-step approach to curriculum development, the targeted needs of emerging clinical teachers were identified by using four different data sets to develop an understanding of current clinical teaching and strategies that were being used to strengthen it. Senior medical students, clinical teachers and staff responsible for faculty development were interviewed and clinical teaching episodes were recorded. Each data set was analysed individually, and then all four sets were synthesized and presented as a situational analysis to identify current strengths, weaknesses, opportunities and threats of clinical teaching. These findings and the notion of fitness-for-purpose informed the development of a faculty development framework for emerging clinical teachers.

**Results:** The outcome of the study takes into account the resource-constrained environment of both the university and the healthcare system. This work proposes a framework that is based on four constituent elements. The first is that faculty development be situated within the network of clinical practice, involving not only individuals, but also their clinical practice community and their academic disciplinary home. The second addresses clinical teaching as supervision; seen as the offering of affordances [Billett; 2002]. The third emphasises clinical learning as student engagement, with an essential interplay between the offering of affordances, and the development and exercising of student's agency for engagement. The last is using students' evaluations of clinical teaching effectiveness to inform and tailor-make the faculty development offerings suggested in the first element.

**Discussion & Conclusion:** As health professions education embraces learning in the workplace, so we need to attend to its counterpart, teaching in the workplace, and how best to optimise both the clinician's teaching and their students' learning. This work shifts the focus from more established forms of faculty development (as focusing on teaching knowledge and strategies) to encouraging an ongoing relationship between faculty developers and clinicians, aimed at iterative strengthening of clinical teaching effectiveness through responding to the student learning experience. We propose a fit-for-purpose faculty development framework that has the potential to assist clinicians at new sites as they embark on their journey to becoming confident clinical teachers; able to create an enabling learning environment.

#### References:

- Billett, S. 2002. Toward a workplace pedagogy: Guidance, participation, and engagement. *Adult Education Quarterly*, 53(1):27-43.  
Blitz, J., Bezuidenhout, J., Conradie, H., De Villiers, M. & Van Schalkwyk, S. 2014. 'I felt colonised': Emerging clinical teachers on a new rural teaching platform. *Rural and Remote Health*, 14(2):2511.

## #9G Doctoral Reports 2

### 9G2 (7)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1620-1640

**Location of Presentation:** Room 1.85-86, Level 1

### Bias in the Mirror: Exploring Implicit Bias in Health Professions Education

#### AUTHOR(S):

- Javeed Sukhera, Western University, London, Canada (Presenter)
- Pim Teunissen, Maastricht University, Maastricht, Netherlands
- Lorelei Lingard, Western University, London, Canada
- Chris Watling, Western University, London, Canada

#### ABSTRACT

**Introduction:** Implicit biases include attitudes and behaviours exhibited by health professionals outside their conscious awareness and despite best intentions. Such biases can have a negative impact on equitable patient care. Despite growing interest, implicit bias recognition and management is an underdeveloped area of research in health professions education. Until we develop sound educational strategies to facilitate implicit bias recognition and management, the promise of equitable and just health care for all remains unfulfilled. This thesis sets out to explore the process of teaching and learning about implicit bias within both individuals and learning environments. A series of five interconnected studies sought to better understand how health professionals process and integrate feedback about their biases, and how individuals and learning environments influence each other once implicit biases are revealed.

**Methods:** All studies utilize qualitative research methods and are informed by constructivist epistemological stance, including core aspects of constructivist grounded theory methodology. Data were gathered through semi-structured interviews, and in study four, rich pictures were used to facilitate reflection. In several studies, the implicit association test (IAT) was utilized as an elicitation tool. The IAT is a computer-based exercise that calculates Individual response as a proxy for the strength of implicit associations between categories. The first study explored the social process of stigma within a clinical learning environment. The second, third and fourth explored how health professionals respond to feedback about their biases, and the fifth utilized longitudinal interviewing to explore how individuals and learning environments influence one another once awareness of implicit biases is triggered.

**Results:** When health professionals confront their biases, they experience powerful emotions. They want to better manage their biases, yet acknowledge that this process is inherently difficult. Participants suggested that recognizing and managing implicit bias through education requires a balance between striving for self-improvement while accepting one's flaws and vulnerabilities. Enacting this concept of "striving while accepting" may be facilitated through role modelling, relationships, sharing and dialogue.

**Conclusion:** Recognizing and managing implicit biases involves an iterative process of feedback seeking, role reflection, goal setting and role modelling behaviour change. Since constantly striving to manage one's implicit biases within a culture that rewards perfectionism has the potential to perpetuate psychological stress for learners, implicit bias curricula should address the balance between striving for the ideals while accepting the actual. This thesis proposes an integrated theory of implicit bias recognition and management that may be replicated or adapted across contexts and settings to mitigate the negative impact of bias and promote equity for a variety of underserved and marginalized patient groups.

## #9G Doctoral Reports 2

### 9G3 (41)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1640-1700

**Location of Presentation:** Room 1.85-86, Level 1

## Learning through Talk: The Role of Discourse in Medical Education

### AUTHOR(S):

- **Walter Eppich, Northwestern University, Chicago, USA (Presenter)**
- Tim Dornan, Queen's University, Belfast, UK
- Jan-Joost Rethans, Maastricht University, Maastricht, Netherlands
- Pim Teunissen, Maastricht University, Maastricht, Netherlands

### ABSTRACT

**Introduction:** Rather than treating talk as 'communicative competency', this thesis viewed talk as joint social activity and addressed the following research question: How does 'talk' contribute to learning in clinical education? We explored three instances of healthcare talk: (a) healthcare simulation debriefing, (b) workplace telephone talk, and (c) team reflection (TR). We aimed to identify lessons from these respective settings and articulate practical strategies to promote learning and patient care.

**Methods:** We used a variety of methodologies, including: (a) narrative reviews and synthesis to generate novel conceptual models; (b) case study of adult and pediatric resuscitation education; (c) design of a rater training curriculum to assess team performance in pediatric resuscitations, and (d) constructivist grounded theory and thematic analysis to analyze data from semi-structured interviews.

**Results:** Collectively, the published studies reported in this thesis explored talk in educational and workplace settings, using healthcare simulation debriefing, telephone talk, and team interactions as representative examples. 1. Our novel conceptual framework for healthcare debriefing offered a context-specific and adaptable structure to steer the talk of post-event debriefing conversations. From our case study, we articulated success factors for feedback and debriefing in resuscitation education. 2. We developed a rater training program to reliably train raters to assess team performance in simulated resuscitation scenarios, which can inform the content of team debriefings. 3. Using constructivist grounded theory, we analyzed 17 in-depth interviews with doctors-in-training about work-related telephone talk and identified 'productive conversational tensions' that influenced learning positively: (a) dealing with power differentials, (b) dealing with pushback, and (c) expressing uncertainty while embodying trustworthiness. 4. Using qualitative thematic analysis of the above 17 interviews, we identified formal and informal aspects of workplace telephone talk that influence learning. Informal conversational questions and interruptions served as 'disguised feedback' for doctors-in-training. Potential educational strategies to enhance telephone talk include: (a) embedding telephone talk in existing simulation activities and (b) sensitizing junior doctors to "disguised" feedback during telephone talk to augment future workplace learning. 5. Our novel conceptual framework for team reflection (TR) in healthcare extended traditional views of TR and encompassed three phases when TR occurs: pre-action TR (briefing before patient care), in-action TR (deliberations during active patient care), and post-action TR (debriefing after patient care). We theorized that TR contributes to highly situated forms of clinical workplace learning.

**Discussion:** When viewed through a socio-cultural lens, talk represents social activity that drives learning. Lessons from the structured talk of feedback and debriefing in healthcare simulation demonstrate the potential in deliberately steering workplace clinical talk by establishing learning relationships and attending to process and content elements. 'Productive conversational tensions' add a nuanced view of workplace talk in recognizing that some tensions motivate junior doctors to adapt their telephone talk in ways to minimize future tensions. Talk plays an integral role in conceptions of individual competence in clinical education, namely in developing competence, appearing competent, and assessing competence. Further, talk drives the development of shared understandings within teams and promotes collective competence.

**Conclusion:** Medical educators should steer the talk of practice in two ways: (a) through formal and informal means, such as structured feedback and debriefings that attend to relevant process and content, and strategies that foster relationships and supportive learning environments, and (b) through educational strategies that sensitize clinicians to the affordances of future workplace talk.

## #9G Doctoral Reports 2

### 9G4 (39)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1720

**Location of Presentation:** Room 1.85-86, Level 1

### Learning to care for “difficult patients”: motivation, identity and reflection in medical students and residents

#### AUTHOR(S):

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- Patricia O'Sullivan, UCSF, San Francisco, CA, USA
- Arianne Teherani, UCSF, San Francisco, CA, USA
- Olle ten Cate, UMC Utrecht, Utrecht, the Netherlands

#### ABSTRACT

**Introduction:** This thesis concerns interactions with patients toward whom physicians experience negative emotions. The literature commonly refers to these patients as “difficult”, and they experience lower quality of care. Because medical learners commonly experience patients as “difficult” using this definition, educators need to understand their experiences so they can support clinical learning, despite strong emotions. This thesis address three main research questions: 1. Who are “difficult patients” and why do medical students and residents find them difficult? 2. What do medical students and residents want from educators to support learning to care for “difficult patients”? 3. Can we train faculty to support verbal reflection about these patients?

**Methods:** Three studies addressed Question 1. Study 1 was a qualitative interview study of final-year medical students and Study 2 of final-year ob-gyn residents about interactions with patients toward whom they felt negative emotions. In both, constructivist grounded theory analyses addressed why they had negative emotions toward these patients. Study 3 analyzed medical students’ written reflections about challenging clinical encounters using content analysis with pre-determined codes identified in Study 1. Two studies addressed Question 2. Study 4 was a content analysis of data collected in Study 1 to reveal medical students’ strategies with challenging patients and what support they desired from supervisors. Study 2 assessed these in residents. Study 5 addressed Question 3 as an implementation study of a reflection workshop for residents through a train-the-trainer model. Finally, the thesis includes a narrative review of the “difficult patient” as described in the medical literature for the last eighty years.

**Results:** Question 1: Study 1 demonstrated that students’ negative emotions were exacerbated when patients countered their ideals about patient-centered care and their roles as medical students, when the patients’ behaviors were perceived to affect their performance, and when they lacked competence and autonomy in the patients’ care, thus indicating the importance of students’ identity and motivation in these interactions. Study 2 found that residents’ negative emotions toward patients occurred when patients interfered with residents’ roles and identities. Study 3 found that medical students described “difficult patient” interactions as worsened when they lacked competence, autonomy and a sense of connection to the team, consistent with self-determination theory, and when they couldn’t fulfill the identity of patient advocate due to their role. Question 2: Study 4 indicated that medical students (and Study 2 that residents) wanted faculty to devise teaching activities, such as reflection, to support the emotional challenges they experienced. Question 3: In Study 5, a faculty development session increased faculty confidence in facilitating conversations about “difficult patients”, and these faculty went on to facilitate verbal reflection seminars about emotionally challenging patients, which were well-received by residents. Finally, the “difficult patient” literature suggests that providers are increasingly taking ownership for these challenges and provides recommendations for educators.

**Discussion and Conclusion:** Interaction with a “difficult patient” is complex, with the learner’s ideals, identities and motivations playing important roles in the dynamic. Some interactions were uniquely challenging, for example, when learners were performance-oriented and worried that patients’ behaviors would make them look less competent. Students desire support and reflection around these interactions. Educators should consider these “difficult patient” interactions as key teaching moments and opportunities to not only train learners to provide patient-centered care when feeling strong emotions, but also to help shape their motivation and identity.



## #9H Short Communications - Patient as Educator 2

### 9H1 (920)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 1.61-62, Level 1

### Patients in partnership with educators: use of design thinking to improve patient involvement in undergraduate medical education

#### AUTHOR(S):

- Lindsay Muscroft, Warwick Medical School, UK (Presenter)
- Jan Cooper, Warwick Medical School, UK
- Kate Owen, Warwick Medical School, UK

#### ABSTRACT

**Background:** Design thinking involves taking a designer's approach to problem solving, using empathy and experimentation to arrive at innovative solutions (ideou.com,2019). It can be especially useful for solving 'wicked problems', and consists of 5 stages: empathise, define, ideate, prototype and test. With the UK General Medical Council guidance actively encouraging the role of patients in development of curricula and assessments, we hypothesised that design thinking could be used to facilitate this.

**Summary of Work:** We report two experiences of using design-thinking methodology to generate ideas to promote patient involvement in undergraduate medical education. One involved groups of patients, students and educators exploring the theme of incorporating more of the patient perspective into the curriculum. The other asked patients and educators to explore how to involve patients in curriculum design, assessments and student selection.

**Summary of Results:** Multiple ideas generated by patients in the first workshop have been taken forward. A fellow has been appointed to write new case based learning scenarios with the assistance of patients with the conditions in question, and a student selected module in simulation is being developed to allow students and patients to work together to create role play scenarios based on real experiences. To promote student insight into the patient experience, a research study where students accompany patients whilst travelling to and from a hospital appointment, observing the appointment purely from the patient's point of view is currently underway. Ideas generated from the second workshop included establishing a physical presence for patient groups in the medical school promoting further collaboration in curriculum development. Other suggestions that are currently being explored are using real patients in exams including training them to provide feedback, and a lay panel at student selection centres with autonomy to decide their own questions.

**Discussion and Conclusions:** Design thinking is a useful tool to unlock creativity and promote collaborative practice between patients and educators. It provides a democratic forum in which patients and educators can work as a team to generate innovative strategies to increase patient involvement in medical education.

**Take-home Messages:** Collaborating with patients, and using design thinking to facilitate this, can help generate new ideas for medical curricula.

## #9H Short Communications - Patient as Educator 2

### 9H2 (185)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 1.61-62, Level 1

### The patient, student and professional as equal educators and learners in the concept of Welearn in Human Embryology

#### AUTHOR(S):

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- Thomas Vijn, IQ Healthcare, Radboudumc, the Netherlands

#### ABSTRACT

**Background:** Welearn in Human Embryology is part of a 20-weeks minor program in the combined third year bachelor program medicine and biomedical science. The central learning objective is to be able to place a specific birth defect and its treatment in the context of the patient and/or the parents. In Welearn, students (n=29) meet (parents of) patients in the field of birth defects (n=10), a scientific researcher and a pediatrician. The goals are to improve person-centered care, to learn from each other, and to develop a research proposal initiated by the patients. Two to three students are coupled to a patient. There are three group sessions (Introduction, Communication and research, Experiences) and individual meetings with the patient at home and, when appropriate, in the out-patient clinic.

**Summary of Work:** The sessions were observed by a medical educator. The program was evaluated with evaluation forms for all participants after each session and three focus group interviews.

**Summary of Results:** The group session 'Introduction' was rated with an 8 on a 10-point Likert scale, 'Communication and research' with 7.3 by patients and students and 8.5 by professionals, and 'Experiences' with 6.8 by parents, 7.1 by students and 8.3 by professionals. In general, Welearn was rated 4.0 or more by all groups on a 5-point Likert scale. Positive points mentioned by all groups were: exchange of perspectives, equivalence, and person-centeredness. Points to improve were: management of expectations, more concrete framework, and support by literature.

**Discussion and Conclusions:** The targeted learning values of Welearn were person-centeredness, exchange of perspectives, equity, learning together by doing together, self-directed learning environment, transfer to practice and inter-professional learning. Most of these values were encountered, but students had difficulties in operating in the self-directed learning environment. They asked for more structure and instructions. Also the parents would be happy with a more concrete framework. Conclusion: Welearn as a program has proven to be valuable for patients, students and professionals.

**Take-home Messages:** By bringing patients, students and professionals together in a safe, role less and self-directed learning environment, a unique exchange of attitude, knowledge and experiences takes place.

## #9H Short Communications - Patient as Educator 2

9H3 (2263)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 1.61-62, Level 1

### The patient's voice in a pre-clinical curriculum

#### AUTHOR(S):

- **Laura Schwering, Radboud Universiteit, the Netherlands (Presenter)**
- Lotte Ensing, Radbouduniversiteit, the Netherlands
- Marianne Brouwers, Radboudumc, the Netherlands
- Rene Tabak, Radboudumc patient advisory board, the Netherlands
- Ron Hameleers, Radboudumc, the Netherlands
- Petra Van Gurp, Radboudumc, the Netherlands

#### ABSTRACT

**Background:** Early intensive contact between students and patients is increasingly recognized as beneficial for learning. However collaboration between students and real patients to improve medical professionalism is uncommon. Participation of patients, learning in collaboration and self-directed learning are the core of our newly designed curriculum (bio-) medical sciences. Within the ultimate framework of the study, patients will inspire students to learn and students will encourage patients to talk and participate in the education of future doctors and scientists. Learning takes place in a meaningful environment, practically orientated.

**Summary of Work:** In 2015 we co-created two educational activities with patient representatives for bachelor students: 1. Students meet Patient (SMP) : a program in which every student frequently meets different patients, each with a unique medical problem and context. 2. 'Bring your own patient' (BYOP): a 1-2 years longitudinal program for every student to study one patient in his context, being an expert of his medical journey. Both programs are supported with learning goals. Students also formulate personal learning goals e.g. on professional development. Students report about their experiences in written essays and during group meetings.

**Summary of Results:** Qualitative analysis of written essays shows that students are inspired by these contacts with patients and show professional development, improvement of interpersonal skills and increase in knowledge. There is diversity in lessons learned by students. Feedback of patients shows that they feel empowered to stress the impact of disease and the importance of shared decision making, contributing to patient-centered care.

**Discussion and Conclusions:** Exchange of unique experiences and thereby increasing learning output, is stimulated when individual patient contacts are embedded in the pre-clinical curriculum. Therefore we created discussions in small groups in the study-program 'professionalism' to maximize learning output. Patients also have a contact to share their experiences with if they would like to. Both longitudinal follow up (BYOP) and incidental individual patient-student contacts (SMP) are powerful to motivate the bachelor students in their study process, enhance patient-centeredness and professionalism and stimulate patient-empowerment in practice.

**Take-home Messages:** Active patient involvement in a pre-clinical curriculum is a successful method to learn in reciprocity.

## #9H Short Communications - Patient as Educator 2

### 9H4 (2319)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 1.61-62, Level 1

### Aboriginal patients as educators: 'clinical yarning' in healthcare settings

#### AUTHOR(S):

- Emma Webster, University of Sydney School of Rural Health, Australia (Presenter)
- Susan Anderson, University of Sydney, Australia
- Lynette Riley, University of Sydney, Australia
- Emma Walke, University of Sydney, Australia
- Kathryn Naden, University of Sydney School of Rural Health, Australia
- Susan Parker-Pavlovic, University of Sydney, Australia

#### ABSTRACT

**Background:** Aboriginal Australians are custodians for the longest continuing culture in the world, which has a strong oral tradition. The effects of colonisation continue after 200 years resulting in disparities in health status despite many Commonwealth programs to 'close the gap'. A community meeting was held in a major rural city to discuss the findings of a local diabetes study. Effective interactions with healthcare professionals were highlighted as a means to influence the understanding and management of diabetes. 'Yarning' is a traditional communication framework which can re-orientate communications to privilege an Aboriginal worldview. Aboriginal Elders attending the meeting requested that the local University of Sydney campus 'teach doctors how to 'yarn'.

**Summary of Work:** In response to this invitation, our University asked Aboriginal patients and community members to help us better define the communication problem from their perspective and to teach us about yarning. Consultation with Aboriginal people across three communities was guided by these questions 1) What are the major challenges in communicating with doctors and nurses? 2) What is yarning? What makes a good yarn with a doctor or nurse? 3) How do we go about teaching yarning to health students?

**Summary of Results:** An online course consisting of five modules was prepared for healthcare students from across the University. Starting with hearing patient stories, students learn about differences in cultural perspectives, see examples of yarning in healthcare and develop reflective practice skills to guide lifetime learning about yarning. The final module focusses on reciprocity. On completion, students have a foundation for improved communication with Aboriginal patients in both clinical attachments and in the workforce.

**Discussion and Conclusions:** Differences in conceptual cultural frames between western and Aboriginal approaches and the interdependence of language and culture amplify the communication gap which exists between non-Aboriginal health professionals and Aboriginal patients.

**Take-home Messages:** Healthcare professionals hold one type of respected knowledge. Our Aboriginal patients also hold valuable knowledge. When patients are invited to contribute as educators these knowledges are brought together. This approach could be extended to other First Nations people to improve communication and close the gap.

## #9H Short Communications - Patient as Educator 2

9H5 (2229)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 1.61-62, Level 1

### Patient safety on the agenda, a co-creation

#### AUTHOR(S):

- **Petra Van Gurp, Radboudumc, the Netherlands (Presenter)**
- Goof Claessen, Radboudumc Health Academy, the Netherlands
- Bo Nannekhan, Radboudumc patient volunteers, the Netherlands
- Bas Verhoeven, Radboudumc, the Netherlands

#### ABSTRACT

**Background:** Our topclass ‘innovation in care’, designed for residents, is a multidisciplinary skills training program to improve patient-care and patient-safety. Residents increase their knowledge, perform a quality improvement project (QIP) to practice skills and show leadership development (LSD). Every resident is connected with a patient (‘buddy’) to stimulate reflection on personal progress. In this report we focus on patient-involvement in our topclass.

**Summary of Work:** Patient platforms of the academic hospital are approached to recruit potential buddies. Buddies have authentic, relevant and valid expertise in illness and its consequences. Based on CV and a QIP-plan buddies link themselves to a resident. The resident informs the buddy about QIP and LSD in 3 personal contacts. To facilitate the learning process the buddy is trained how to stimulate reflection and give feedback on both topics. In between the buddy-resident-contacts, buddies meet to reflect on their experiences.

**Summary of Results:** Qualitative analysis of feedback and review-reports shows that the majority of couples learn in reciprocity, although they start insecure. Buddies learn about the daily practice of a resident, stress patient-centered care in LSD and notice the barriers in a QIP. Buddies and residents notice the enhancement of the patient perspective and participation in a QIP. In their review-reports at the end of the topclass, residents describe the influence of a new perspective on their professional performance. They are not used to ask feedback from patients on their personal professional development. Not only the patient perspective but also the professional background of the buddy can be useful in the learning process. Couples that perceived a ‘mis-match’ were coached to overcome the barrier.

**Discussion and Conclusions:** The patient seems to be the natural partner in a QIP in patient care, although in reality this is not common. A topclass to provide knowledge and skills to enhance patient participation can be helpful. Developing the topclass in collaboration with residents and patients facilitates more customization.

**Take-home Messages:** The patient as a buddy in a topclass for residents induces mutuality in learning and is therefore a strong and new instrument for professional development of these residents and patient-empowerment.



## #9H Short Communications - Patient as Educator 2

### 9H6 (344)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 1.61-62, Level 1

### Patient voices in physician validation - a qualitative study

#### AUTHOR(S):

- **Carolyn Sehlbach, Maastricht University, the Netherlands (Presenter)**
- Marjan Govaerts, Maastricht University, the Netherlands
- Sharon Mitchell, World Heart Organisation, Switzerland
- Truus Teunissen, Amsterdam UMC Free University Medical Centre, the Netherlands
- Frank Smeenk, Catharina Hospital, the Netherlands
- Gernot Rohde, Johann Wolfgang Goethe University Hospital, Germany

#### ABSTRACT

**Background:** Despite increasing calls for patient and public involvement in healthcare quality improvement, the question of how patient evaluations can contribute to physicians' learning and performance assessment has received scant attention. This study aims at adding to the conceptualisation of patient involvement in quality of care and medical education through exploring patients' perspectives on their role in physicians' lifelong learning and re-validation processes.

**Summary of Work:** We used a qualitative approach and semi-structured interviews to explore patients' take on physician re-validation. We purposively sampled 25 patients from two Dutch hospitals, and through the Dutch Lung Foundation. Data was analysed according to the principles of template analysis. We started coding using a set of a priori themes developed from the literature on patient empowerment, performance feedback and assessment. We iteratively modified themes and refined templates throughout data analysis. The final template included themes around doctor-patient relationships, doctor-patient communication, feedback, patient empowerment, patient identity and power dynamics.

**Summary of Results:** Results show that patients differed with respect to the role they envisage for themselves in physicians' learning and re-validation. Three patient voices were discerned: the pro-active patient, the complacent patient, and the outsider. The voices differ in patients' willingness and perceived capability of providing feedback and evaluating physicians' performance. Patients' personal experiences and anticipated consequences of evaluating their physician appear to influence patients' readiness to play a role in feedback and validation processes. That is, the extent to which patients experienced a power balance within the doctor-patient relationship seemed to have a direct impact on their voicing behaviour.

**Discussion and Conclusions:** Reflecting on the challenges inherent in patient and public involvement, our results underline that no 'collective' patient voice exists, but that a multitude of experiences and patient perspectives must be considered in performance evaluation of physicians.

**Take-home Messages:** As not all patients are equally suitable or wish to play a role in physicians' learning and re-validation, it is crucial to maintain the right balance between empowering patients and respecting their uniqueness. To involve patients successfully in physicians' learning, it is imperative to ensure a safe environment for feedback and to foster patient awareness.

## #9I Short Communications - Assessment: General

9I1 WITHDRAWN



## #9I Short Communications - Assessment: General

9I2 (1092)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room L2, Level 1

### Student use of resources to prepare for USMLE Step 1 and COMLEX Level 1 Licensing Exams

#### AUTHOR(S):

- Sean Tackett, Johns Hopkins Bayview Medical Center, USA (Presenter)
- Ashwin Menon, Osmosis, USA
- Shiv Gaglani, Osmosis, USA

#### ABSTRACT

**Background:** USMLE Step 1 and COMLEX Level 1 are required for medical licensure in the U.S. To excel on these high-stakes exams, most medical students purchase commercial exam preparation resources. Our goal was to describe resource usage for preparation for Step 1 and COMLEX 1 and relationships with exam performance.

**Summary of Work:** After IRB approval, registered users of Osmosis - an adaptive learning platform often used for exam preparation - were surveyed by email 2 months after their exam date, for exam dates from May 1-July 25, 2018 in the Osmosis study schedule. Surveys captured students' usage intensity along a 5-point Likert scale for 18 commercial options. Students estimated the number of practice questions completed in each question bank, number of passes through each review book, total amount of money they spent on resources, MCAT total, class rank (as top, middle, or bottom third), and Step 1 and/or COMLEX 1 total scores. Linear regression models, adjusting for MCAT total and class rank, examined relationships between resource usage variables and licensing exam scores.

**Summary of Results:** 158/326 (48%) students across 57 medical schools responded. For Step 1, students used a mean of 8.3 (range 3-15) commercial resources, spending \$1020 (range \$50-6000), and, for COMLEX 1, used a mean of 7.5 (range 3-11) commercial resources, spending \$766 (range \$0-2500). MCAT total and class rank were strongly and independently associated with exam scores ( $p < .001$ ) in all regression analyses. No significant relationships existed between licensing exam scores and resource number, use of a specific resource, number of practice questions attempted in one question bank or aggregated across question banks, or number of passes through review books. Greater spending was associated with worse Step 1 performance (1 point lower for every \$180,  $p = .002$ ).

**Discussion and Conclusions:** Students use numerous commercial resources and incur significant out-of-pocket costs to prepare for licensing exams; yet, across this diverse sample, greater spending was associated with worse performance.

**Take-home Messages:** Prior class performance, not using an individual commercial resource, was strongly related to exam scores, suggesting that expending regular effort on building one's medical knowledge foundation within the curriculum could be a preferred licensing exam preparation strategy.

## #9I Short Communications - Assessment: General

9I3 (1942)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room L2, Level 1

### Promoting core medical science subject competency and feedback in an integrated assessment system - the case for longitudinal subject tracking

#### AUTHOR(S):

- Scarpa Schoeman, Wits University, South Africa (Presenter)

#### ABSTRACT

**Background:** The four year Graduate Entry Medical Programme (GEMP) at Wits University, South Africa uses an integrated, systems-based approach to teach and assess foundational medical and clinical science concepts during the first 2 years (GEMP 1-2) of training. Concerns were raised over time that students study strategically and could falsely pass these first 2 years with potentially significant knowledge gaps in critical subject areas (Pathology, Microbiology, Pharmacology, etc) leading to weaknesses in the clinical phase of their training (GEMP 3-4). Knowledge assessment in GEMP 1-2 years uses single best answer MCQs, with blueprinting, standard setting and reliability analysis, to ensure valid and reliable outcomes.

**Summary of Work:** A new system of critical subject group tracking was introduced in 2017, to monitor the progression and knowledge levels of GEMP 1-2 students in the 6 critical subject groups. This innovation was believed to drive engagement with all critical subject areas and reduce strategic studying. Every MCQ used in the year is coded to a subject track and at the end of the year students must pass the integrated component of the assessments as well as demonstrating they don't have a major weakness in any of the 6 tracks. Students also receive detailed individual feedback on their track results during the year to guide their learning and engagement.

**Summary of Results:** In 2016, prior to implementation, the rate of false positive (FP) outcomes in the GEMP 1-2 years were 9.8% and 6.1% respectively. Post implementation, the FP rates reduced to 5.2% and 2.5% respectively in 2017 and to 3.8% and 1.9% respectively in 2018. All FP outcomes in 2018 were prevented from progressing in the course.

**Discussion and Conclusions:** The longitudinal tracking of subject knowledge in an integrated curriculum is effective in driving engagement with those subject tracks and reducing false positive outcomes.

**Take-home Messages:** By tracking the performance of students in each track, as well as providing regular individual feedback on progression, strategic studying of students seems, leading to FP outcomes, to have reduced considerably. This promotes the development of a well-rounded knowledge base for students entering the clinical phase of training.

## #9I Short Communications - Assessment: General

9I4 (985)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room L2, Level 1

### Valuing Mentoring in Programmatic Assessment: Experiences and Evaluation

#### AUTHOR(S):

- Chris Skinner, Notre Dame University Fremantle, Australia (Presenter)
- Dylan Griffiths, Notre Dame University Fremantle, Australia
- Frank Bate, Notre Dame University Fremantle, Australia
- Elina Tor, Notre Dame University Fremantle, Australia
- Robin Guttinger, Notre Dame University Fremantle, Australia
- Sue Fyfe, Curtin University, Australia

#### ABSTRACT

**Background:** In 2017, the University of Notre Dame School of Medicine (Fremantle) began moving towards a programmatic model of assessment. The School adopted an incremental approach to programmatic assessment which included, in the first instance, establishing a mentoring program and then re-engineering its suite of continuous assessments.

**Summary of Work:** The School's mentoring program collates feedback from multiple data points from various discipline domains and presents this feedback for students and their mentors to consider and action plan for the future (Boud & Molloy, 2013). Data were collected each year from students, mentors and support staff (academic and non-academic) using a combination of questionnaires for students and focus groups for staff. The student questionnaire included qualitative and quantitative components and, in 2017, posed 9 statements on mentoring.

**Summary of Results:** Overall mean scores for mentoring were positive in both 2017 and 2018. Students found it useful to communicate with a knowledgeable academic who was prepared to listen and guide them in their learning journey. Mentoring also complemented the incremental approach that the School adopted in its implementation of programmatic assessment. Mentors generally felt that their mentoring was worthwhile and added value to the student experience (e.g. 'It was a real privilege to sit with someone for half an hour, look through their marks and discuss their progress with them').

**Discussion and Conclusions:** The School commenced a journey towards programmatic assessment, but very quickly reached a point where significant strategic decisions were required in order to continue on this journey. Importantly, positive mentoring evaluation within the complexity of moving towards programmatic assessment, helped stabilise and validate the change process itself.

**Take-home Messages:** 1. Establishment of mentoring programme within a move towards programmatic assessment can validate a complex change management process 2. Mentoring supporting programmatic assessment can facilitate both students and staff educational understanding and conjoint development 3. Mentoring can help in the integration of specific disciplines in a medical programme.

**References:** Boud, D. & Molloy, E. (2013). Rethinking models of feedback for learning: the challenge of design. *Assessment & Evaluation in Higher Education*, 38 (6), 698-712.

<https://doi.org/10.1080/02602938.2012.691462>.





## #91 Short Communications - Assessment: General

915 (337)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room L2, Level 1

### Identifying the narrative used by educators in trainee evaluations to assist in articulating judgment of performance

#### AUTHOR(S):

- Nyoli Valentine, ModMed, Australia (Presenter)
- Lambert Schuwirth, Flinders University, Australia

#### ABSTRACT

**Background:** Modern assessment in medical education is increasingly reliant on human judgment, as it is clear that quantitative scales have limitations in fully assessing learners' competence and providing them with meaningful feedback to assist learning. For this, possession of an expert narrative and vocabulary is essential.

**Summary of Work:** This study explored how medical education experts voice their subjective judgements about learners and to what extent they are using clear, information-rich terminology (high level semantic qualifiers); and to gain a better understanding of the experts' language used in these subjective judgements.

**Summary of Results:** Six experienced medical educators from urban and rural environments were purposefully selected. Each educator reviewed a registrar clinical case analysis in a think out loud manner. The transcribed data was analysed, codes were identified and ordered into themes. Analysis continued until saturation was reached. Five themes with subthemes emerged. The main themes were: 1. Demonstration of Expertise 2. Personal Credibility 3. Professional Credibility 4. Using a Predefined structure and 5. Relevance.

**Discussion and Conclusions:** Analogous to what experienced clinicians do in clinical reasoning, experienced medical educators verbalise their judgements using information rich, high-level semantic qualifiers. In this study, we were able to unpack these. Although there may be individual variability in the exact words used, clear themes emerged. These findings can be used to develop a helpful shared narrative for educators in observation-based assessment. The provision of a rich, detailed narrative will also assist in providing clarity to registrar feedback with areas of weakness clearly articulated to improve learning and remediation.

**Take-home Messages:** Experienced medical educators use information rich, high level semantic qualifiers to verbalise their judgements of learners during assessment. This narrative is able to be used to support supervisors in translating their observations into feedback and decisions in real time.

## #9I Short Communications - Assessment: General

9I6 (3056)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room L2, Level 1

### Over 10 years of experience in collaborative assessment: The umbrella consortium for assessment networks (UCAN)

#### AUTHOR(S):

- Winfried Kurtz, Institut für Kommunikations- und Prüfungsforschung, Germany (Presenter)
- Konstantin Brass, Institut für Kommunikations und Prüfungsforschung, Germany

#### ABSTRACT

**Background:** To face upcoming challenges in medical assessment, institutions need to work together more intensively. A little more than 10 years ago, UCAN was initiated as a cooperation project. Today, 45 schools and boards from 7 countries work closely together, share knowledge and content, combine and optimize their resources and engage in collaborative assessment research.

**Summary of Work:** UCAN developed a web-based platform for authoring, sharing and reviewing exams. Since then, exams and OSCEs can be delivered on computers, scanner-readable sheets. Exams can be evaluated with test statistics and graded with customizable algorithms. Later on, a Simulated Patients Database was added to administer the SP programs. Since 2012, OSCEs and since 2014 exams including multimodal content can be delivered on mobile devices.

**Summary of Results:** More than 400.000 items were authored by 6,700 colleagues. Best practice examples for reliable exams, assessment content and workflows are collected and used at the partner institutions. New items and exam formats are continuously developed. So far, over 5 million students were assessed successfully in 25,000 exams.

**Discussion and Conclusions:** Over 10 years of cooperation in a collaborative network has proven to be an efficient way to face new challenges in medical assessment. Especially with the future requirements in the assessment of competencies and workplace based assessment, close tie-ups are highly recommendable.

**Take-home Messages:** Assessment institutions should work together in order to tackle common challenges. Over 10 years of successful cooperation at UCAN proves this approach to be both innovative and efficient.

## #9J Short Communications - Faculty Development 2

9J1 (1684)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.31-32, Level 0

### Supervision training interventions in healthcare: a realist synthesis

#### AUTHOR(S):

- Sarah Lee, Monash University, Australia (Presenter)
- Claire Palermo, Monash University, Australia
- Charlotte Denniston, Melbourne University, Australia
- Eve Huang, Monash University, Australia
- Kirsty Pope, Monash University, Australia
- Charlotte Rees, Monash University, Australia

#### ABSTRACT

**Background:** Supervision training aims to develop supervisory capacity in the healthcare workforce. Despite extensive literature, understanding the mechanisms through which supervision training interventions produce their effects, for whom and under what circumstances is limited.

**Summary of Work:** We are conducting a realist synthesis of peer-reviewed literature (Medline, ERIC, PsychInfo, CINAHL, Social Services Abstracts, APAIS) following Pawsons five stages of realist review: 1) clarifying scope, 2) searching for evidence, 3) assessment of quality, 4) data extraction, and 5) data synthesis. This realist synthesis aims to answer the question: in what ways do supervision training interventions in the health and human services work, for whom and in what contexts and why.

**Summary of Results:** The search found 11,766 articles excluding duplicates. Application of inclusion/exclusion criteria for relevance, plus rigour checks removed 11,686 articles, leaving 36 articles in the final synthesis. Extracted data includes study characteristics, intervention type, contextual factors, mechanisms and outcomes. Patterns in context-mechanism-outcome configurations across the 36 articles will be identified. Preliminary findings suggest that supervision workshops and seminars (i.e. context) which include a mix of didactic teaching, group activities and role modelling can lead to improved supervisory behaviours (positive outcomes) for a range of health professionals through opportunities to discuss learning, sharing knowledge and reflective practice (i.e. mechanism).

**Discussion and Conclusions:** The interplay between context, mechanisms and outcomes for supervision training interventions will demonstrate the extent to which training interventions produce their effects, for whom and in what contexts. This research could help supervisors to better understand what types of supervision training might work best for their context. Faculty developers could also use these findings to guide future supervision training interventions and further scholarship and research in the field.

**Take-home Messages:** Supervision training is conducted to improve supervision outcomes. This realist synthesis will help to delineate for whom, how, and in what contexts, appreciating that a one-size-fits-all approach to supervision training is neither possible nor desirable.

## #9J Short Communications - Faculty Development 2

9J2 (141)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.31-32, Level 0

### Innovative, Comprehensive Faculty Development for Large Group Teaching in a Medical School affiliated with a Large Healthcare System

#### AUTHOR(S):

- Elisabeth Schlegel, Zucker School of Medicine At Hofstra/Northwell, USA (Presenter)
- Doreen M. Olvet, Hofstra Northwell School of Medicine at Hofstra/Northwell, USA
- Alice Fornari, Zucker School of Medicine at Hofstra/Northwell, USA

#### ABSTRACT

**Background:** Up to 30% of large group sessions at the Zucker School of Medicine are led by clinical faculty employed by our affiliated healthcare system (Northwell Health) spread out over far geographical distances. Large group leaders are expected to deliver the material using active learning techniques to ensure that students engage with the material, participate in class and collaborate with each other. There are significant challenges to providing faculty development to a geographically dispersed group. We describe a systematic approach to ensure teaching excellence among clinical faculty teaching in large group sessions.

**Summary of Work:** We implemented a 6-fold faculty development approach to build a cadre of healthcare system-based faculty equipped to use active learning techniques. Within Kern's curricular framework, the following steps are being implemented, (1) Foundational Skill Building, (2) Personal Coaching, (3) QA/QI Incorporating Feedback and Evaluation Data, (4) Continuous Introduction of Teaching Innovations, (5) a System-based Community of Practice, and (6) Educational Onboarding for newly-appointed faculty. Individualized personal consultations determine the needs, build a collaborative working relationship, and focus on improvements through a feedback cycle. Newsletters, templates and other resources are disseminated through the Learning Management System and distribution channels to maintain continuous communication.

**Summary of Results:** After partnering with individual faculty, student evaluations have been favorable commending enjoyable in-class activities and effective use of technology. Data will be presented from semi-structured interviews evaluating the program structure, as well as from student evaluations. Close collaboration with the course directors is needed to determine logistics of faculty development based on session performance and to acquire teaching skills.

**Discussion and Conclusions:** Targeted skill building, one-on-one targeted consultation and feedback, flexible availability of the faculty development specialist, enhanced communication strategies and innovative thinking are key to accommodating the different needs of faculty teaching in large group sessions.

**Take-home Messages:** Successful faculty development for educators working within a large healthcare system can be accomplished through flexibility and innovative communication strategies within a curricular framework. Our 6-fold faculty development program prepares health care professionals for effective teaching in large group sessions.

**References:** 1 Newman, L. R., Roberts, D. H., & Schwartzstein, R. M. (2016). Peer Observation of Teaching Handbook.

## #9J Short Communications - Faculty Development 2

9J3 (2655)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.31-32, Level 0

### Education in health professions: building a community of practice in Midwest Brazil

#### AUTHOR(S):

- **Edlaine Faria de Moura Villela, Jataí Medical School, Federal University of Goiás, Brazil (Presenter)**
- Cristian Junior da Costa, Jataí Medical School, Federal University of Goiás, Brazil
- Wanderson Sant'ana de Almeida, Jataí Medical School, Federal University of Goiás, Brazil
- Mariana Severo Takatsu, Jataí Medical School, Federal University of Goiás, Brazil
- Giovana Rocha Queiroz, Jataí Medical School, Federal University of Goiás, Brazil
- Valdes Roberto Bollela, Ribeirão Preto Medical School, University of São Paulo, Brazil

#### ABSTRACT

**Background:** Education in health professions has an important aspect regarding the faculty development for undergraduate and postgraduate courses with teaching-learning active methodologies, thus guaranteeing the emergence of a community of practice.

**Summary of Work:** The Basic Module for Education in Health Professions (BM-EHP) was the first activity programmed by the Center of Innovation and Collaboration for Teaching (NICE), created in a public university in Brazilian Midwest in 2018. This center took as a model the Center of Faculty Development for Teaching (CDDE), in a public university in Southern Brazil. BM-EHP began in September 2018 and was designed with four face-to-face meetings of 4 hours each per month and four virtual meetings of 1 hour each per month, obtaining a total of 20 hours (05h/month). In our learning virtual environment, there are all bibliography and discussion forums to bring the faculty closer and enable collaborative learning.

**Summary of Results:** The face-to-face activities took place once a month, lasting four hours each. It was always used a room with mobile chairs so that it was possible to organize an educational environment that favored the activity in small and large groups, including presentation of the small group synthesis in plenary and brief theoretical presentations. The topics covered in three meetings were: 'Faculty development: from simple workshops to communities of practice'; 'Adult Learning Principles: How do we learn? Traditional Methodology or Active Methodology? Effective Methodology!'; 'Effective teaching-learning strategies'. For the fourth meeting (the last one), it was planned for each participant of the module to present proposals for educational intervention in their professional reality. We had 12 very interesting intervention proposals. The proposals aim to attend the courses of Medicine, Biomedicine, Nursing, Physiotherapy, Physical education and Veterinary Medicine and will be implemented in 2019.

**Discussion and Conclusions:** It was achieved a well-defined group of people with genuine interest in health education in order to maintain the discussion and qualification of the teaching practice at our university.

**Take-home Messages:** In the Faculty development process, it is necessary to ensure the creation of an active community of practice so that the process of teacher training will have continuity.



## #9J Short Communications - Faculty Development 2

9J4 (2917)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.31-32, Level 0

### A Learning Community to Support Staff Scholarship and Progression

#### AUTHOR(S):

- Genevieve Stapleton, University of Glasgow Medical School, UK (Presenter)

#### ABSTRACT

**Background:** Professional development and progression as a scholar and teacher are key objectives in HE institutions, generating expertise which benefits teaching practice. Meeting staff development needs for progression and engagement with scholarship is variable and often provided through mentoring which has mixed success. Also, the transition from a research background to the scholarship of learning and teaching can be difficult and isolating.

**Summary of Work:** A Learning Community (LC), (Cox, 2004), was formed to support scholarship activities and progression of its members, and to explore whether it could provide an effective model of support. Membership was by 'invitation' and required the signing of a 'contract', agreeing to predefined objectives for the group to achieve. LC members met for 10 meetings over 12 months, and contributed equally to decisions regarding meeting content. A qualitative analysis of the effectiveness of the LC was carried out using pre-and post-LC focus groups, as well as members' reflective diaries.

**Summary of Results:** The LC was overwhelmingly welcomed by members with 97% meeting attendance. The LC filled a gap in support currently offered to lecturers engaged in scholarship. Members identified the barriers and difficulties to engage in scholarship and reflected on the parity of scholarship with research at an institutional level. The peer-support provided a collaborative environment which reduced feelings of isolation, anxiety and confusion for those in the early stages of their scholarship careers. The LC generated a strong sense of belonging which resulted in confidence to collaboratively and/or cooperatively engage with scholarship.

**Discussion and Conclusions:** The importance of learning spaces in HE extends to staff development with the LC providing a necessary space for shared experience and collaborative mentoring to engage in scholarship and progression. The LC experience aligns with transformative learning, where members moved to empowerment and control over their scholarship and progression.

**Take-home Messages:** Supporting engagement with scholarship and raising its profile can be achieved through a Learning Community, which was found to be an effective model to promote engagement with scholarship and parity with research.

## #9J Short Communications - Faculty Development 2

9J5 (171)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.31-32, Level 0

### MacAdemia: Meeting the Faculty Development Needs of Community Physician Teachers in Distributive Medical Education

#### AUTHOR(S):

- X. Catherine Tong, Waterloo Regional Campus, McMaster University, Canada (Presenter)
- Anjali Kundi, Niagara Regional Campus, McMaster University, Canada
- Anne Wong, Program for Faculty Development, Faculty of Health Sciences, McMaster University, Canada
- Amanda Bell, Niagara Regional Campus, McMaster University, Canada
- Cathy Morris, Waterloo Regional Campus, McMaster University, Canada

#### ABSTRACT

**Background:** Physician teachers in distributive/decentralized medical education (DME) sites who practice at varying distances from the main campus face increasing clinical and teaching demands. Although institutions offer ongoing faculty development programs, DME physician teachers do not participate optimally due to many barriers.

**Summary of Work:** The McMaster University Program for Faculty Development (PFD) Team administered a needs assessment survey to DME teachers. The results showed that although enthusiastic, they lack confidence in their skills and desire more feedback. To address these learning needs, in 2018, the PFD team launched MacAdemia, a new faculty development certificate program designed for physician teachers in two distributive campuses. Compared to the main campus programs, MacAdemia is unique. Workshops are developed for small groups of community teachers and made available online. The practice requirement is integrated into existing teaching responsibilities. Teachers are connected with resources specific to their needs through mentorship. The program may be completed over one to three years in a self-directed manner. All efforts are made to support the very busy physician teachers to reach their goals without incurring significant burden to their existing clinical and teaching practices.

**Summary of Results:** Eleven clinician teachers from various practice locations and specialties have enrolled in the program since spring 2018. One has completed the program. Although it is too early to evaluate the program from the participants' point of view, it has succeeded as a vehicle for faculty development delivery and a scaffold for building a teaching community-of-practice. As such, it potentially benefits all DME physician teachers including those who do not register in the program.

**Discussion and Conclusions:** Through MacAdemia, McMaster University PFD Team has started to succeed in engaging more DME physician teachers. As we support physicians in achieving their individual teaching goals and building a teaching community, we help deliver the university's academic mission in the DME setting.

**Take-home Messages:** Delivering faculty development effectively in the DME setting is challenging. The McMaster PFD team has seen initial success in the first cohort of the MacAdemia program.

## #9K Short Communications - International Medical Graduates

### 9K1 (2041)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.14, Level 0

### Design of a program for complementary education of International Medical Graduates in Sweden - to include Swedish or not

#### AUTHOR(S):

- Magnus Hultin, Umeå university, Sweden (Presenter)
- Olof Semb, Umeå university, Sweden
- Krister Tano, Umeå university, Sweden
- Emil Molander, Umeå university, Sweden
- Gabriella Morén, Umeå university, Sweden
- Patrik Wennberg, Umeå university, Sweden

#### ABSTRACT

**Background:** International medical graduates (IMGs) can either select to take a proficiency test to become licensed to practice in Sweden or to take a 1-2-year complimentary medical education (CME) to qualify for internship. Both paths test the participant for proficiency according to the national Swedish standards for becoming a licensed physician and are given in Swedish. The national standards include medical knowledge, interprofessional skills, communication with patient, relatives and other personnel, and scientific scholarship. A prerequisite for the CME is a passing grade in a Swedish language level 3 course at an accredited adult education center. A recurring observation was that both those failing the proficiency test for IMGs and those taking previous CME was lacking in Swedish proficiency.

**Summary of Work:** A programmatic approach was taken to implement systematic training in Swedish applied in medicine at this two-year CME that is mainly based on distance training using videoconference systems. During the first year the language training corresponds to 50% of the curriculum. Research questions: Did the students at the new CME perceive the education in Swedish as valuable and did the students pass the examinations? Design: Cross-sectional study based on the course evaluations and the results of the examinations from the first semester.

**Summary of Results:** 28 students were admitted to the program and 22 remained with the course for the finals of the first semester. The majority had increased their proficiency in Swedish as measured in vocabulary and correct use of words, but the grammar had not improved. Half of the students failed the summative assessment and three of the students also failed the majority of the formative assessments. The participants scored the relevance and the value of the Swedish training as high.

**Discussion and Conclusions:** The students appreciate the training in Swedish while also having difficulties to pass the tests. A more comprehensive study is warranted to study how to best deliver language training to IMGs.

**Take-home Messages:** Medical education for IMGs needs to take language proficiency into account.

## #9K Short Communications - International Medical Graduates

### 9K2 (1022)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.14, Level 0

### “My name is not Schneider”: a qualitative study on the social integration of immigrating, Middle-East physicians in Germany

#### AUTHOR(S):

- Marwa Schumann, Alexandria Faculty of Medicine, Egypt (Presenter)
- Asja Maaz, Dieter Scheffner Center for Medical Education and Educational research, Charité - Universitätsmedizin, Germany
- Harm Peters, Dieter Scheffner Center for Medical Education and Educational Research, Charité - Universitätsmedizin, Germany

#### ABSTRACT

**Background:** The healthcare systems of the 21st century have witnessed substantial numbers of migrating physicians and other healthcare professionals across the globe. Internationalization of the medical workforce has brought enrichment to the destination countries; however the diversity strains the national workforce. Successful integration of immigrating physicians is worth the effort as it is associated with improved quality of life and of the healthcare delivery.

**Summary of Work:** We conducted a qualitative study based on social constructivism epistemology. Our aim is to explore the social integration of immigrating physicians in the German society in general and the German healthcare system in particular. The coding framework was based on the social integration theory by Esser (2004), delineating the four dimensions cultural adaptation, positioning, interaction and identification. The study was conducted from June to September 2017 in Germany. Immigrating physicians from Syria, Jordan, Egypt, Palestine and Iran were invited to interviews and focus group discussions. We employed a purposeful maximum variation sampling strategy. Recruitment was mainly done by announcements on the corresponding social media groups.

**Summary of Results:** Nine interviews and one focus group discussion were conducted among a total number of 14 participants: 12 residents, and 2 specialists in different geographic locations in Germany. Participants became more culturally adapted with time; cultural competencies were acquired through self-learning rather than through orientation programs. Participants felt well positioned in their workplace; however they preferred interaction among circles of their ethnic origin. Identification with the German cultural values and life orientation was not achieved. The social integration was facilitated by language proficiency, personality traits, support from peers and supervisors. Barriers included lack of formal cross cultural training and heavy workload.

**Discussion and Conclusions:** Physicians from Middle-East immigrating into Germany undergo initial phases of loss and confusion of professional identity. Over time they become better socially integrated in some of the dimensions, but do not achieve full social integration.

**Take-home Messages:** Middle-East physicians experience an in-homogeneous, partly incomplete degree of social integration when immigrating to Germany. Orientation programs and formal cross-cultural training may help to facilitate their social integration in society and the workplace.

## #9K Short Communications - International Medical Graduates

### 9K3 (2586)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.14, Level 0

### Going the extra mile: international patient handover in a European border region

#### AUTHOR(S):

- **Daniëlle Verstegen, School of Health Professions Education, FHML, Maastricht University, the Netherlands (Presenter)**
- Juliët Beuken, School of Health Professions Education, FHML, Maastricht University, the Netherlands
- Diana Dolmans, School of Health Professions Education, FHML, Maastricht University, the Netherlands
- Xavier Losfeld, CHR Citadelle, Belgium
- Lina Vogt, AIXTRA, Uniklinik RWTH Aachen, Germany
- Mara Bouwmans, School of Health Professions Education, FHML, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** International patient handover is a complex and increasingly frequent event. Handover is associated with patient safety risks and many healthcare professionals perceive international handover to be even riskier. Insight in their perspectives is required to develop ways to support international collaborations in healthcare. We investigated perspective on international handover in the border-region Meuse-Rhine (EMR).

**Summary of Work:** We performed semi-structured interviews with healthcare professionals (physicians, nurses, paramedics and administrative staff) working in three international patient handover settings (two acute and one elective). The interview guide was based on the theory of planned behavior, addressing attitudes, behavioral norms and perceived behavioral control (Ajzen, 1991). Professionals were asked to describe (their experiences with) international patient handover and provide a recent example. All interviews were summarized and analyzed inductively (Braun & Clarke, 2006), looking for themes appearing in all three settings. Concepts of the theory of planned behavior were used as sensitizing concepts.

**Summary of Results:** Forty-three healthcare professionals participated. We identified four common challenges that arise from differences in perspective between healthcare professionals in the EMR: 1) communication (e.g. language), 2) processes of working (e.g. protocols), 3) healthcare system (e.g. financial organization), and 4) culture (e.g. interaction with colleagues). Three ways of overcoming these challenges were identified: 1) creating awareness, 2) changing attitudes, and 3) building collaboration.

**Discussion and Conclusions:** Although healthcare professionals involved in international patient handover share the same interest (patient care), they deal with many challenges. Suggested ways of overcoming these challenges focus on creating awareness about local differences in both human and system factors, which may lead to a better understanding and respect towards one another. This expectedly empowers professionals to improve international patient handover. Joint training, during which professionals can share experiences and discuss possibilities to improve international patient handover, is a frequently mentioned solution to reach this. For future research, we suggest investigating joint training approaches, leading towards situation-specific possibilities for improvement.

**Take-home Messages:** International patient handover comes with challenges concerning communication, processes of working, healthcare system and culture. Joint training seems to be a promising way to overcome these challenges.



## #9K Short Communications - International Medical Graduates

### 9K4 (1813)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.14, Level 0

### Developing a rubric for measuring English history-taking skills of non-native English-speaking medical students

#### AUTHOR(S):

- Takayuki Oshimi, International University of Health and Welfare School of Medicine, Japan (Presenter)
- Tamerlan Babayev, International University of Health and Welfare School of Medicine, Japan
- Yusuke Hayasaka, International University of Health and Welfare School of Medicine, Japan
- Cosmin Florescu, International University of Health and Welfare School of Medicine, Japan

#### ABSTRACT

**Background:** There is little evidence on the effectiveness of assessment and intervention strategies to improve English proficiency for medical purposes of non-native English-speaking medical students. To evaluate history-taking skills, the United States Medical Licensing Examination Step 2 Clinical Skills (USMLE Step 2 CS) assesses performance in the following three areas: Spoken English Proficiency (SEP), Communication and Interpersonal Skills (CIS), and Integrated Clinical Encounter (ICE). As the USMLE Step 2 CS criteria are essentially an exit exam designed for American medical students, the assessment criteria are too advanced for measuring English communication skills of preclinical non-native English-speaking medical students. The purpose of this study is to develop a formative evaluation tool to guide English history-taking skills education for this group of medical students.

**Summary of Work:** First-year medical students (120 Japanese and 20 international) completed a preclinical program taught in English as well as 45 hours of history-taking skills training in English. A rubric was designed to evaluate their history-taking skills based on the three domains of the USMLE Step 2 CS criteria. In order to begin developing a validity argument for the new rubric, the three domain scores and pre- and post-program scores of Test of English as a Foreign Language Institutional Testing Program (TOEFL ITP®) were analyzed in a cross-sectional study.

**Summary of Results:** Pre-program TOEFL ITP® scores had significant positive correlations with all of the three domains (Pearson correlation coefficient:  $r$  values ranged between 0.448 and 0.745,  $p < 0.01$ ). The strongest correlation was found between pre-program TOEFL ITP® Section 1 (listening comprehension) and spoken English proficiency in our history taking rubric ( $r = 0.745$ ,  $p < 0.01$ ).

**Discussion and Conclusions:** English listening comprehension is an important factor in predicting history-taking performance in English. We describe our experience of developing a novel rubric for history-taking skills of non-native English-speaking medical students which may help guide the development of future educational programs aimed at improving their history-taking skills in English.

**Take-home Messages:** Our novel rubric may help guide the development of future educational programs aimed at improving their history-taking skills in English.

## #9K Short Communications - International Medical Graduates

**9K5** (2350)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.14, Level 0

### Defining competency criteria for written clinical communication: The case of the Occupational English Test (OET) and its implications for medical education

#### AUTHOR(S):

- Tim McNamara, The University of Melbourne, Australia (Presenter)
- Ute Knoch, The University of Melbourne, Australia
- Cathie Elder, The University of Melbourne, Australia
- Eleanor Flynn, The University of Melbourne, Australia
- Elizabeth Manias, Deakin University, Australia
- Robyn Woodward-Kron, The University of Melbourne, Australia

#### ABSTRACT

**Background:** What level of written clinical communication skill should be required of immigrant health professionals entering practice in an English-medium clinical environment? An international test of clinical communication, the Occupational English Test, is now accepted for registration of health professionals in the UK and Ireland, and in Australia, Singapore and New Zealand. How can language professionals and health professionals work together to define the qualities of successful written clinical communication to inform the criteria used to judge performance on this test, which simulates workplace communication tasks?

**Summary of Work:** In a three-year project, a team of Australian language professionals and health professional educators investigated the following research questions: 'What do health professionals value when judging samples of clinical written communication? How can their insights inform test criteria and competency standards to be used in medical education?' Feedback from 16 clinical educators/supervisors in medicine on the adequacy of carefully selected authentic samples of discharge summaries and letters of referral was elicited in clinical and workshop settings, analysed, and the existing linguistic criteria evaluated in light of the findings.

**Summary of Results:** Themes emerging as being valued by the clinical educators/supervisors included appropriateness of writing to the style of the document, or to the audience; conciseness; sufficiency; accuracy of content; and clarity of language, content and organization. The existing linguistic criteria used to evaluate performance in the test are currently being modified in light of the findings, which also serve as potential guidance for education on clinical writing skills for both native and non-native speaking health professionals.

**Discussion and Conclusions:** Interdisciplinary collaboration between language professionals and health professionals results in more valid criteria by which to evaluate the clinical communication of international medical graduates working in English. Learning to see the qualities of communication from the point of view not just of language experts but of those actually engaged in the communication ensures more relevant and fairer evaluations and standards.

**Take-home Messages:** International health workforce mobility requires valid assessment of health professionals readiness to work within a second language (English). The Occupational English Test involves clinically relevant communication tasks, and interdisciplinary research has ensured performance is judged against clinically relevant criteria.

## #9K Short Communications - International Medical Graduates

9K6 (3356)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.14, Level 0

### Health Education England's Global Learners Programme

#### AUTHOR(S):

- Elin Sandberg, Health Education England, UK (Presenter)
- Ged Byrne, Health Education England, UK

#### ABSTRACT

**Background:** UK healthcare can learn from global learners, who will bring their experience with them. Whilst in the UK they will gain new knowledge and skills and be ready to lead developments in healthcare in their home countries. The programme will focus effort on the integration of professionals back into their home clinical setting. The GLP actively creates better, more innovative and novel training environments that build and develop international best practice and promote life-long learning.

**Summary of Work:** The Global Learners Programme offers an educational programme for healthcare workers from other countries who would like to spend three years on an earn, learn and return scheme. The programme creates dynamic partnerships and build lasting relationships with global healthcare organisations and healthcare professionals alike.

**Summary of Results:** Since starting in 2017, the Global Learners Programme has expanded rapidly to facilitate hundreds of placement opportunities in the NHS. This comprehensive end to end process with a focus on enhancing skills and clinical practice provides international nurses with a unique opportunity and an exciting experience. The three-year programme begins with support to attain registration with the Nursing and Midwifery Council and then a comprehensive preceptorship programme. In years two and three, participants will acquire skills in mentorship, clinical skills development and can undertake post graduate education in leadership and nursing studies.

**Discussion and Conclusions:** There have been significant challenges in managing large scale international migration of nurses, both in managing the relationships with education providers, healthcare providers and governments, as well as the ethical sensitivities of international workforce movement. The quality assurance processes show a high level of satisfaction with the programme from overseas partners, NHS Trusts and Global Learners. Global Learner cohorts are being planned in a sustainable and ethical way alongside domestically trained staff.

**Take-home Messages:** Comprehensive clinical, educational and pastoral support programmes are critical for creating and maintaining positive learning opportunities. Large scale placement programmes require a much greater ethical emphasis than traditional international recruitment, with ongoing partnerships with education providers, healthcare providers and governments. Bi-directional workforce migration on earn, learn and return programmes offer significant opportunities for individuals and organisations involved.

## #9L Short Communications - Medical Education Research

### 9L1 (1603)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room L7, Level 1

### Setting priorities for health education research: A Faculty-wide mixed methods study

#### AUTHOR(S):

- Charlotte Rees, Monash University, Australia (Presenter)
- Claire Palermo, Monash University, Australia
- Olivia King, Monash University, Australia
- Paul Crampton, Monash University, Australia

#### ABSTRACT

**Background:** To maximise research investment, it is important to identify high-priority research questions that meet the needs of multiple stakeholders. This study aimed to identify priorities for health professions education research to help develop a focused educational research strategy inclusive of all Monash University health science and health professions programs, plus facilitate collaboration through the development of new cross-faculty education research networks.

**Summary of Work:** We identified priorities, barriers, and enablers to health education research through a qualitative survey with 101 learners, patients, academics and clinicians across all health sciences and health professions. Next, we asked 780 similar stakeholders to rate and rank the identified priorities through a quantitative survey. We collected feedback on the priorities via six individual or group interviews with 16 stakeholders.

**Summary of Results:** Of 30 priorities identified, the top rated were: Understanding how best to ensure students develop the required clinical skills for practice; Understanding how to promote resiliency and well-being in students; and Ensuring the curriculum prepares for practice. Six themes were identified as potential networks for future health educational research at Monash: (1) Culture of learning together in the workplace; (2) Preparation for work; (3) Meeting future Australian healthcare needs; (4) Pedagogical effectiveness; (5) Workforce issues; (6) Curriculum integration. The greatest enabler to research was 'staff-motivation' (n=212, 12%) and barrier was 'lack of time' (n=259, 14%).

**Discussion and Conclusions:** Some of our key priorities are consistent with those identified in other recent priority setting exercises from the UK, Canada and New Zealand, illustrating that topics like workplace learning, preparedness for practice and curriculum integration are perceived to be important irrespective of countries, disciplines and time-periods. However, priority topics identified within 'Meeting future Australian healthcare needs' seemed unique to the current study.

**Take-home Messages:** These findings will be employed to develop an educational research strategy inclusive of Monash University's five health sciences and twelve health professional education programs. This will inform research investment, which consequently will address key health education research questions that can be translated into health educational practice and policy locally and beyond to improve health education and patient care.

## #9L Short Communications - Medical Education Research

### 9L2 (1099)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room L7, Level 1

### Publications Outcomes of Abstracts Presented at the Association for Medical Education in Europe (AMEE) in 2013 and 2014

#### AUTHOR(S):

- Samy Azer, King Saud University College of Medicine, Saudi Arabia (Presenter)

#### ABSTRACT

**Background:** The quality of a research study is often assessed by a full-text publication. The purpose of this study was to assess the full-text journal publication rate of abstracts presented at the 2013 and 2014 AMEE conferences and determine possible predictors for successful publications.

**Summary of Work:** Abstracts presented at the 2013 and 2014 AMEE conferences were identified from the conference abstract books and grouped into short communications, research/PhD reports, and poster presentations. Using an online randomization program, abstracts were randomly selected from each group in the two years. Google Scholar, Google, PubMed, and the Web of Science databases were searched to locate publications related to these abstracts. Other information collected from publications were lag of time to get published, journal, Journal Impact Factor, number of institutes and countries involved.

**Summary of Results:** A total of 240 abstracts (100 short communication, 100 posters, and 40 research/PhDs reports) were selected from the two years. Of these 103 (43%) proceeded to full publications. Research presentations were most likely to proceed to full publications 36 (90%), followed by short communication 45 (45%) then posters 22 (22%) and were more likely to achieve publication in high impact journals. The lag of time to full publication varied from 1 month to 48 months. Countries that led the publication records were Canada, United Kingdom, Netherlands, and United States. We are currently working on examining more publication related parameters.

**Discussion and Conclusions:** This is the first study of its kind in medical education. Studies presented as research/PhD reports were more likely to be reported in a full-text publication. More than one paper was identified to the majority of abstracts under this category. While we do not know the exact cause for the low rate of publications observed for posters, further work is conducted to identify predictors of subsequent publication.

**Take-home Messages:** The study can guide researchers into factors that guide study design features and successful publication.



## #9L Short Communications - Medical Education Research

### 9L3 (733)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room L7, Level 1

### Setting Agenda for Medical Education Research in Pakistan

#### AUTHOR(S):

- Ahsan Sethi, Khyber Medical University, Pakistan (Presenter)
- Sarah Ali, Pakistan Medical and Dental Council, Pakistan

#### ABSTRACT

**Background:** Research in medical education aims at deepening the understanding of teaching and learning by studying phenomena, interactions and interventions. Few countries (Canada, New Zealand, Iran, Scotland) have previously conducted priority-setting exercises for medical education research. Pakistan is a developing country with limited number of trained medical educationist and research funds. Therefore, it is important to ensure that the training of healthcare educators contribute most effectively towards improvement in the healthcare. The current study aims to identify medical education research priorities in Pakistan for the next five years, along with their justifications.

**Summary of Work:** It is a two-stage exploratory mixed-method design. Participants included purposively selected faculty members, supervisors, undergraduate students, MHPE postgraduate students & policy makers from Pakistan. In stage-1: An exploratory open-ended qualitative questionnaire was emailed to 250 participants in which they were asked about medical education research priorities in Pakistan for the next five years, along with their justifications. Data from stage 1 were thematically analysed and a questionnaire was developed using those themes. In Stage-2: The participants were asked to rate the importance of these themes on a scale of 1 to 5, along with the justification for their choice. Quantitative data were analysed using SPSS v.21.

**Summary of Results:** One hundred and eighty participants from different stakeholder groups responded. We identified 20 research priorities including curriculum integration, equality and diversity, technology enhanced learning, assessment, faculty development, enhancing communication, feedback, role modelling, professionalism and ethics, and admission process etc. Justifications included policy and political agendas, and need for evidence-base.

**Discussion and Conclusions:** The priority areas and their drivers identified in the current study are in harmony with those identified in other countries. They provide a platform of evidence for researchers and funders, healthcare institutions, regulators and policymakers on which to base decisions about allocating time and funds for medical education research in Pakistan and beyond. Other countries need to conduct similar research to determine their own medical education research priorities.

**Take-home Messages:** There is a need for research in faculty development, improving assessment, enhancing communication and research skills among health professionals of Pakistan. Such studies help ensure resources can be utilized wisely to maximize productivity.

## #9L Short Communications - Medical Education Research

### 9L4 (1467)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room L7, Level 1

### The PERFUME study: Peer-Ethnographic Research on Feedback in Undergraduate Medical Education

#### AUTHOR(S):

- Christopher See, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong (Presenter)
- Serena Ming Yan Tsui, The University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** The role of student feedback in medical education is critical for the continual evolution of student-centred medical curricula. There is an increasing burden on students to give feedback after each and every teaching event; however, the utility of such feedback can be questionable due to questionnaire burnout and evaluation fatigue. Our research questions on feedback are; What is the meaning of the process of feedback to students? What is the cultural significance of the phrases they use in their written feedback? What are their attitudes towards both formal and informal channels of feedback? We employed peer-ethnography; the training of a medical student in ethnographic research methods to generate insider or 'emic' knowledge on the topic through qualitative fieldwork.

**Summary of Work:** This study reports a series of works relating to the PERFUME study. Firstly, it describes the findings a systematic review of peer-ethnography in qualitative research which evaluated the studies using the Quallsyst qualitative evaluation tool. Secondly, it describes the peer-ethnographer training programme for medical students including its theoretical design, implementation and participant feedback. Finally, it will describe the findings the peer-ethnography fieldwork (January-June 2019), producing a rich-and-thick description of student attitudes and behaviours towards feedback.

**Summary of Results:** The systematic review revealed few peer-ethnographic studies employed in medical education, although it has been employed in other fields with varying degrees study robustness. Our peer-ethnographer training programme combined example case analysis, training in ethics, consent and qualitative analysis software and mock field-journal exercises to equip peer-ethnographers for fieldwork. The fieldwork phase, currently underway, shows promising and candid findings of the meaning of feedback to students. The full findings of the study will be reported.

**Discussion and Conclusions:** Peer-ethnography can be a powerful tool for understanding student populations. It can engage students as stakeholders in the process educational research and provide an avenue for self-advocation. The findings of the underlying meaning of feedback for medical students has implications for curriculum design as well as educators' professional development.

**Take-home Messages:** Peer-ethnography is useful avenue for exploring educational research questions. Student feedback must be viewed in through the lens of student beliefs and attitudes towards the process for it to be meaningfully utilised.

## #9L Short Communications - Medical Education Research

### 9L5 (570)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room L7, Level 1

### An individualized approach to support academic publishing

#### AUTHOR(S):

- Darshana Shah, Marshall University Joan C. Edwards School of Medicine, USA (Presenter)
- Larry Dial, Marshall University, Joan C. Edwards School of Medicine, USA

#### ABSTRACT

**Background:** Publication rates are a vital measure of individual and institutional performance, yet many faculty and trainee experiences fail to fulfill this obligation. Although the number of abstract submissions is increasing at conferences, many in academia do not submit their work for publication as they lack expertise, support, and time for the scholarly publication process. Despite the importance of journal publications as a measure of scholarly activity, data on the successful faculty development of programs for publication remain limited.

**Summary of Work:** An innovative personalized faculty development program called 'Advancing Scholarly Productivity In Research & Education (ASPIRE)' was implemented to promote and enhance scholarly productivity among faculty and trainees. The program consisted of a supportive team of content experts, mentors, and technical experts including librarians and editorial support. The program participants were asked to identify their publication needs through an online needs assessment survey. Based on the participants response, the program provided personalized assistance, from writing, to editing, to publication. Participants received feedback and encouragement in preparing manuscripts for submission or resubmission, along with editorial support, professional writing tools, and strategies for academic publication.

**Summary of Results:** The impact of this intervention is assessed by tracking manuscript submissions, resubmissions, and final publications. Individuals who participated in this intervention successfully published 11 works in 12 months. The program has successfully increased the level of publication among novice authors such as medical students and residents.

**Discussion and Conclusions:** Publishing in academia is a key career step for advancement. The individualized program based on the needs assessment survey shed light on myriad barriers faced by authors including fear of rejection, uncertainty of direction, and feeling overwhelmed by the process. The supportive team of mentors, content experts, and technical experts helped the participants through these challenges. Successful publication requires not only writing skills, but a supportive and nurturing environment.

**Take-home Messages:** 'One size does not fit all' for general faculty development. An individualized faculty development process has the potential to have a substantial impact on faculty and institutional publication profiles.

## #9L Short Communications - Medical Education Research

### 9L6 (1280)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room L7, Level 1

### The Implicit Association Test in Health Professions Education: A Critical Narrative Review

#### AUTHOR(S):

- Maham Rehman, Western University, Canada (Presenter)
- Javeed Sukhera, London Health Sciences Centre, Western University, Canada
- Michael Wodzinski, Schulich School of Medicine and Dentistry, Western University, Canada

#### ABSTRACT

**Background:** Implicit bias is a growing area of interest among health professions educators. Educational strategies used to recognize and manage biases include use of the Implicit Association Test (IAT), an online metric of response time. Although the topic of implicit bias in healthcare is gaining increased attention, emerging critique of the IAT suggests the need to subject its use to greater theoretical and empirical scrutiny.

**Summary of Work:** We employed a critical narrative synthesis to review existing research on the use of the IAT in health professions education. Four electronic databases were searched using key terms yielding 1151 titles. After title, abstract and full-text screening, 39 articles were chosen for inclusion.

**Summary of Results:** Two distinct, yet complementary, theoretical perspectives were found in the literature. The dominant perspective utilizes the IAT as a metric of implicit bias to evaluate the success of an educational activity. A contrasting perspective describes the IAT as a tool to promote awareness while triggering discussion and reflection. In the latter, the IAT itself is often part of a learning activity that involves debriefing and in some cases, the issue of defensive reactions regarding the test are also explored.

**Discussion and Conclusions:** Whether used as a tool to measure bias, raise awareness or trigger reflection, the use of the IAT provokes tension between epistemologically divergent theoretical perspectives. In the context of broader critique of the IAT, future research regarding implicit bias in health professions may be enhanced by critical reflexivity regarding assumptions, values and epistemological positioning related to the IAT.

**Take-home Messages:** Our critical analysis of IAT use reinforces that the IAT may be used in distinct but complementary ways. We emphasize that regardless of how the IAT is used in education, curriculum designers and educators must consider both the premise behind the test, and potential reactions from learners.

## #9M Short Communications - Student Characteristics

### 9M1 (2327)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.94-95, Level 0

### Beyond academic excellence: Does ability-based emotional intelligence and personality predict early clinical performance?

#### AUTHOR(S):

- Jo Bishop, Bond University, Australia (Presenter)
- Amy Bannatyne, Bond University, Australia
- Craig Gillies, Revelian, Australia
- Kirsty Forrest, Bond University, Australia

#### ABSTRACT

**Background:** Over the past decade, admissions committees at various medical schools have sought alternatives to traditional cognitive measures when selecting medical students. With communication skills, empathy, and interpersonal abilities increasingly valued and expected in health care, there has been a shifting focus to consider the emotional intelligence (EI) of applicants. Higher levels of EI have been associated with improved empathy in medical consultations, enhanced doctor-patient relationships and teamwork, improved clinical performance, and greater patient satisfaction. Furthermore, EI has been linked to academic success, social skills, job satisfaction, and improved interpersonal relations. In attempting to reduce emphasis of cognitive measures, Bond University recently incorporated ability-based EI and personality testing in the selection process for the 2018 cohort. The purpose of this study was to explore whether these non-cognitive abilities tested during selection could predict knowledge acquisition and clinical skills in the first year of study.

**Summary of Work:** Applicants who satisfied early screening requirements were invited to complete the MSCEIT and 16PF. Candidates offered a position in the medical program following the interview stage (N = 126) were tracked during their first year of study, with outcomes relating to early clinical (tutor-rated history-taking assessment) and academic performance obtained for analysis.

**Summary of Results:** Preliminary analyses revealed a significant positive relationship between EI levels and overall performance on the history taking assessment ( $r = .30$ ). Higher EI was also significantly and positively correlated with ratings of communication skills ( $r = .39$ ) and professional behaviour ( $r = .22$ ). In terms of personality attributes, a significant inverse relationship was revealed between the 16PF factor 'abstractedness' and overall performance ( $r = -.29$ ). Lower scores on abstractedness were also correlated with higher ratings of communication ( $r = .33$ ) and professional behaviour ( $r = .20$ ). A significant positive relationship between the 16PF factor 'sensitivity' and professional behaviour was also revealed ( $r = .19$ ). Additional results relating to academic performance are currently being analysed and will be presented.

**Discussion and Conclusions:** Our preliminary findings reveal that pre-admission levels of EI were positively associated with performance in a Year 1 history taking assessment, providing early evidence that valuing these non-cognitive abilities in selection may have benefit.



## #9M Short Communications - Student Characteristics

### 9M2 (3388)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.94-95, Level 0

### What determines students autonomous motivation to study? Exploring personal and environmental factors for strongest independent variables

#### AUTHOR(S):

- Łukasz Balcerzak, Department of Medical Education, Jagiellonian University Medical College, Poland (Presenter)
- Konrad Jabłoński, Department of Medical Education, Jagiellonian University Medical College
- Klaudiusz Bolt, Jagiellonian University Medical College
- Magdalena Bubel, Jagiellonian University Medical College
- Robert Kupis, Jagiellonian University Medical College
- Barbara Nosal, Jagiellonian University Medical College

#### ABSTRACT

**Background:** Motivation is becoming a major area of interest within the field of health professions' education as it has been proposed to have a crucial role for students' academic success and wellbeing and for patients' outcomes. The Self-Determination-Theory is a motivation theory that recently has been recognised to help understand processes in medical education. Understanding the factors related to autonomous motivation to study might help to develop better medical curricula.

**Summary of Work:** A cross-sectional study was conducted collecting data on demographics, type of motivation to study (Academic Motivation Scale - AMS) and perception of learning climate (Dundee Ready Educational Environment Measure - DREEM) from 1784 undergraduate (medical, dental, nursing, midwifery, physiotherapy, emergency medicine, electro-radiology, public health, dietetics) students at Jagiellonian University Medical College. Regression analysis was used to examine the effect of variables on Relative Autonomous Index (RAI), Autonomous Motivation (AM), Controlled Motivation (CM) and Amotivation (AMT).

**Summary of Results:** Using multiple linear regression analysis, we examined predictive factors of Relative Autonomous Index (RAI): field of study, year of study, GPA, full/part-time form of study, sex, being a member of student organization, relationship status, and DREEM score. The highest positive impact on RAI had DREEM score (beta value 0,56). Other significant positive factors included: field of study, membership in a student organization, part-time form of study. Subsequent regression analysis, examining elements of learning climate, revealed predictive factors for different types motivation. The strongest predictor of RAI and AM was the perception of teaching (beta value 0,55 and 0,45 respectively). CM was predicted by the perception of teaching (0,2) and perception of teachers (0,11). AMT was predicted by the perception of teaching (-0,51), social self-perception (-0,11) and perception of the atmosphere (-0,095).

**Discussion and Conclusions:** This study has shown that autonomous motivation to study in a health profession is mainly related with modifiable variables - the perception of educational environment, especially with the perception of teaching " and not with personal characteristics or variables that cannot be manipulated.

**Take-home Messages:** These findings enhance our understanding of motivation in medical education, highlighting the need to consider the educational environment as a potential factor influencing students autonomous motivation to study.

## #9M Short Communications - Student Characteristics

### 9M3 (2882)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.94-95, Level 0

### Interventions in a Clinical Teaching Unit to Stimulate Motivation

#### AUTHOR(S):

- Esther Hamoen, Leiden University Medical Center, the Netherlands (Presenter)
- Floris van Blankenstein, Leiden University Medical Center, the Netherlands
- Peter de Jong, Leiden University Medical Center, the Netherlands
- Argho Ray, Leiden University Medical Center, the Netherlands
- Marlies Reinders, Leiden University Medical Center, the Netherlands

#### ABSTRACT

**Background:** Clinical workplace learning takes place in a challenging and complex interprofessional learning environment. Distress in such a clinical environment can cause or be caused by low motivation of students and other healthcare professionals. According to Self-Determination Theory (SDT) three basic psychological needs stimulate intrinsic motivation: the need for autonomy, competence and relatedness. Here we describe several interventions in an Internal Medicine Clinical Teaching Unit (CTU) in order to improve this motivation.

**Summary of Work:** In January 2017 an Internal Medicine ward at LUMC has been transformed into a CTU for various healthcare professionals (nurses, interns, and physicians). Several interventions based on SDT, aimed to promote intrinsic motivation, were implemented. For example, prerounds and teaching visits for interns have been introduced to stimulate autonomy. Both sessions are observed and assessed to promote the feeling of competence. Competence is furthermore promoted by skills training to interns by nurses, clinical lessons for nurses provided by physicians and a multidisciplinary grand round for sharing knowledge. This grand round, peer feedback sessions and appointment of dedicated clinical teachers stimulate relatedness. In June 2018 an online questionnaire was conducted among healthcare professionals (70 respondents) in the CTU to evaluate what changes they experienced since the establishment of the CTU and what motivated them to learn.

**Summary of Results:** Qualitative data analysis shows that since the introduction of the CTU professionals experience more focus on teaching and learning, more interprofessional collaboration, improved approachability of colleagues, more team spirit and a less hierarchical, safer work climate. Interprofessional collaboration, team spirit and work climate were also mentioned as motivating for learning. Other important motivators for learning are: acquiring new knowledge and clinical skills, enthusiastic teachers and autonomy.

**Discussion and Conclusions:** Interprofessional collaboration and knowledge sharing seems to play an important role in promoting motivation for learning within the CTU. The factors that were mentioned as motivating for learning seem to fulfil a need for relatedness (team spirit, safe work climate), but also for competence (learning new knowledge and skills) and autonomy (prerounds).

**Take-home Messages:** Motivation to learn can successfully be improved by adapting the learning environment.

## #9M Short Communications - Student Characteristics

### 9M4 (3131)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.94-95, Level 0

### The relationship between medical student Conscientiousness Index scores and later clinical performance: a pilot study

#### AUTHOR(S):

- Marina Sawdon, University of Sunderland, UK (Presenter)
- John McLachlan, University of Central Lancashire, UK

#### ABSTRACT

**Background:** Performance by medical and other healthcare students while in education may provide a guide to their later clinical practice. Demonstrating that a metric has predictive validity would therefore allow targeted training to be directed to individuals who may cause concern during their education. It is known that cognitive ability has significant predictive validity for later clinical practice in a number of settings. However, there are currently no demonstrated measures of personality related performance with such validity.

**Summary of Work:** This study involves data captured since 2005 as part of the Conscientiousness Index (CI) project. Data on students' performance of routine tasks such as attendance and submission of assignments, was assembled to form a single score, known as the Conscientiousness Index. Positive, statistically significant correlations were previously observed with outcome performances such as examinations scores and independent staff ratings of professionalism. The process has since been repeated in other health care settings. The CI scores represent the predictor variable for this study and we are currently exploring the relationship of this data with several postgraduate performance outcome variables as contained in the UKMED database, in order to assess any predictive validity of the CI for future performance as a doctor.

**Summary of Results:** Preliminary analysis has shown statistically significant correlations between CI scores in years 1 and 2 of undergraduate medical education and several postgraduate performance variables; Foundation Programme application SJT scores ( $Rho=.354$ ,  $P<0.001$ ,  $n=467$ ), PSA scores ( $Rho=.339$ ,  $P<0.001$ ,  $n=390$ ), EPM decile ( $Rho=.235$ ,  $P<0.001$ ,  $n=467$ ) and the likelihood of passing professional exams (MRCP) at first sit ( $P<0.038$ ,  $n=267$ ).

**Discussion and Conclusions:** Preliminary analysis has shown that student conscientiousness predicts later workplace performance. Further analysis is required such as data dichotomisation into high and low scoring individuals to fully appreciate the magnitude of the relationship. This will be presented at the meeting.

**Take-home Messages:** This research is very likely to open the way towards recognising factors during medical student training that might lead to performance issues at a professional, working level. This would potentially allow targeted remediation or improved selection.

## #9M Short Communications - Student Characteristics

### 9M5 (1909)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.94-95, Level 0

### Patterns of learning preferences: A Q-methodological study into medical student learning from tutorial groups

#### AUTHOR(S):

- Jan Willem Grijpma, VUmc, the Netherlands (Presenter)
- Anne de la Croix, VUmc, the Netherlands
- Anke Kleinveld, VUmc, the Netherlands
- Anton Horrevoets, VUmc, the Netherlands
- Martijn Meeter, Vrije Universiteit Amsterdam, the Netherlands
- Rashmi Kusurkar, VUmc, the Netherlands

#### ABSTRACT

**Background:** How students perceive their learning environment, and the degree to which it coincides with their preferences for teaching and learning, has been shown to influence outcomes like study success, motivation, retention, and satisfaction. With an increasingly diverse medical student population, we should be mindful of changes in the teaching and learning preferences of students. Learning to identify these preferences opens up the possibility of creating more effective and appealing education for all students. For this study, we were interested in 1) exploring where students differ in their learning preferences; and 2) to determine the bases of these differences.

**Summary of Work:** Q-methodology is a mixed-method research design used for the systematic study of subjectivity. To start, we generated a set of 54 statements on learning preferences from the literature. Then in an individual interview, first-year medical students rank ordered these statements from 'most agree' to 'most disagree'. Finally, the Q-sorts were analyzed using factor analysis. The factor solutions were evaluated, interpreted and finalized by three researchers on methodological, statistical, and qualitative criteria through consensus.

**Summary of Results:** A four-factor solution (i.e. profiles) was found to best fit the data collected from 52 students, and explained 52% of the variance. Students in profile 1 (N=15) can be summarized as 'learning from cases', students in factor 2 (N=8) as 'learning for assessments', students in factor 3 (N=10) as 'learning from peers', students in factor 4 (N=14) as 'learning for personal development'.

**Discussion and Conclusions:** The identified student profiles describe distinct patterns of preferences for learning in tutorial groups. Fundamental differences between the profiles relate to their preferred methods of learning, pedagogical and didactical strategies of tutor teaching, and degree of student-centeredness of the learning environment. The results also indicate aspects of teaching and learning that are valued by all students, like the importance of a safe learning environment, feedback and collaborative learning.

**Take-home Messages:** Medical students have distinct patterns of learning preferences that describe how students view their ideal learning environment. Identifying these preferences makes it possible to tailor the learning environment to different preferences.

## #9N Short Communications - Curriculum - Problem-Based Learning / Integration

9N1 (1838)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 2.15, Level 2

### Reinventing PBL at Maastricht University: Shared Philosophy, Diversified Practice

#### AUTHOR(S):

- Janneke Frambach, Maastricht University, the Netherlands (Presenter)
- Stella Wasenitz, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** In the past fifty years, many medical schools implemented problem-based learning (PBL). Despite half a century of PBL research and practice, the debate on what PBL is and how to best implement it is as alive today as it was in the 1970s. Universities struggle with explaining the approach and sustaining their curricula. These struggles are also visible at Maastricht University, the second university worldwide that adopted PBL, commonly viewed as a pioneer in PBL practice, research and consultancy.

**Summary of Work:** Maastricht University initiated a reflective research project, named EDview, which asked: Where do we stand? How do our students and staff experience PBL? What can we learn from the PBL diversity that has developed across courses? Are we well equipped for the future? EDview aimed to establish a shared view on education at Maastricht University for the future, particularly regarding PBL. In several data collection phases, EDview held interviews and focus groups; reviewed literature; conducted a survey open to all students and staff; and held feedback sessions with a wide stakeholder selection.

**Summary of Results:** Survey respondents (n=1,743) were satisfied with PBL as the educational method. The qualitative data explained that this satisfaction, however, referred to the 'idea' and theory of PBL. Survey respondents were less satisfied about PBL in practice, and felt that the promise of PBL had not been fulfilled. Challenges were for example the 'seven steps' format, alignment with assessment, and tutorial group size. EDview observed a trend and need to define and approach PBL more broadly. A majority preferred the university being more creative and flexible about PBL, with room for variations and alternatives.

**Discussion and Conclusions:** For the future, Maastricht University does not take any PBL format as a starting point. Rather, its interpretation of PBL philosophy (constructive, collaborative, contextual, self-directed learning) serves as the basis of educational design, meeting diverse demands. The university views its PBL philosophy as a dynamic, shared framework that drives continuous debate about educational quality.

**Take-home Messages:** Universities facing similar struggles may initiate their own reflective journey to establish - or abandon - their PBL identity for the future.



## #9N Short Communications - Curriculum - Problem-Based Learning / Integration

9N2 (723)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 2.15, Level 2

### Qualities of PBL Leader: The Students' perspective

#### AUTHOR(S):

- Tayyaba Azhar, University College of Medicine & Dentistry, Pakistan (Presenter)

#### ABSTRACT

**Background:** Problem based learning is an educational strategy in which student work together in a collaborative way to solve a given problem/scenario that they are expected to experience in their real life setting. Students work in a group of 6-8, one of them among the group is the group leader, one is scribe while the remaining are the group members. The group members' work under the leadership of the group leader. Problem based learning helps in forming the foundation of the leadership skills. This study aims to investigate the perceptions of students regarding the quality of people group leaders. Also this study will help us in inculcating the qualities in the PBL group leader.

**Summary of Work:** This was a qualitative descriptive exploratory study conducted in the University College of Medicine and Dentistry. Total 30 MBBS students were included in the study. Three focus group discussion sessions were conducted. The sessions were tape-recorded and were then converted into written document. The data was analyzed by using Atlas ti; a qualitative data analysis tool and themes were generated.

**Summary of Results:** Initially the entire document was read and line to line coding was done which resulted in 300 codes, a second cycle of coding resulted in 95 codes, which were reduced to 78 codes after the third cycle. Finally, 17 codes were formed which were pertinent to the research objective and 5 themes with various sub-themes.

**Discussion and Conclusions:** PBL promotes collaborative learning under the group leader. The qualities of a group leader greatly affect the success of the PBL session. This current study provides a guideline to students and medical colleges as well regarding the qualities of PBL group leaders and will also help in inculcating these qualities.

**Take-home Messages:** This current study will be a guide for the PBL group leaders in adapting the qualities that are expected of them and it will also help medical colleges in inculcating qualities of a PBL leader in their students.

## #9N Short Communications - Curriculum - Problem-Based Learning / Integration

9N3 (963)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 2.15, Level 2

### Silence for the sake of peace. How speaking up for learning can enable interdisciplinary team processes for integrated education

#### AUTHOR(S):

- **Stephanie Meeuwissen, School of Health Professions Education, Maastricht University, the Netherlands (Presenter)**
- Wim Gijssels, School of Business & Economics, Maastricht University, the Netherlands
- Ineke Wolfhagen, School of Health Professions Education, Maastricht University, the Netherlands
- Mirjam oude Egbrink, School of Health Professions Education, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** Integrated education forces teachers from different scientific and clinical disciplines to collaborate. Interdisciplinary teacher teamwork, necessary for the successful development of integrated education, has appeared to be not self-evident. In management sciences, it is shown that team performance increases with high-level team learning processes, ranging from sharing and co-construction to constructive conflict. In this study, we aimed to explore teachers' perspectives on what and how individual, team, and organizational factors influence interdisciplinary team learning processes.

**Summary of Work:** We conducted an exploratory study. 17 members of different interdisciplinary teacher teams in the Maastricht University undergraduate health profession programs were interviewed. Sensitizing concepts of team learning informed our template analysis. Data were collected in an iterative process, until template development was seen as sufficient.

**Summary of Results:** Perceived core influences on the level of the individual, the team, and the organisation were: 1) individual characteristics, skills and motivation, 2) teams' vision, decision-making and reflection, and 3) organizational communication, support and learning. Team learning was facilitated by creative, education-minded individuals who worked with shared task understanding and shared decision-making, within cultures allowing reflection, questioning and speaking-up. Continuous organizational communication and support, and attention for a sustainable workforce needs encouragement to overcome possible problems.

**Discussion and Conclusions:** This study shows both enabling and discouraging influences of interdisciplinary team learning and introduces some of the ways that teams can do to overcome them. If health professions education aims to change its traditional mono-disciplinary education and create conditions that are more favorable for the facilitation of successful interdisciplinary teams, team leaders should play a central role in shared decision-making and the creation of learning cultures in which people routinely reflect on team processes, dare to speak-up and question each other. The obtained knowledge can be used to improve current teams and facilitate new collaborations. Although the barriers traditionally built between disciplines are high, they certainly are not insurmountable.

**Take-home Messages:** Interdisciplinary teacher teamwork is multi-factorial; Team members should be encouraged to embrace student-centered education; Team leaders should focus on shared decision-making and developing a learning culture in which reflection, speaking up, and questioning another are key; Organizations should invest in continuous communication and support for learning.

## #9N Short Communications - Curriculum - Problem-Based Learning / Integration

9N4 (1337)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 2.15, Level 2

### How integrated are the Vertically Integrated Assessments (VIA) in medical education?

#### AUTHOR(S):

- Basia Diug, Monash University, Australia (Presenter)
- Nazmul Karim, Monash University, Australia
- Dragan Ilic, Monash University, Australia

#### ABSTRACT

**Background:** Vertical integration is increasingly being incorporated in medical education to prepare graduates better for clinical practice. Vertically integrated assessments (VIA) are designed to assess the integration of early clinical education, biomedical sciences and clinical responsibility levels for trainees. There is a paucity of literature to ascertain if the VIA is efficient.

**Summary of Work:** Aim/objectives: The aim of the present study is to assess the efficiency of VIA through comparison of learner's performance between VIA and non-VIA assessments. Methods Data on 1188 medical students enrolled from 2013 to 2017 were analysed using Blunt-Altman measure of agreement. The agreement between the assessment modality scores with-VIA and without-VIA were illustrated using a Bland-Altman plot; 95% limits of agreement for each comparison (average  $\pm$  1.96 standard deviation of difference) were computed. The difference between the estimates was regressed on the average of the 2 estimates.

**Summary of Results:** The learner's performance scores with-VIA and without-VIA exhibited significant disagreement in both pre-clinical ( $\beta = -8.9$ ; 95%CI -9.6, -8.3  $p < 0.01$ ) and clinical ( $\beta = -34.3$ ; 95%CI -35.6, -33.0  $p < 0.01$ ) assessments, suggesting generalized underestimation without vertical integration. The disagreement is more apparent in students with the higher grades.

**Discussion and Conclusions:** This study finds significant discrimination between assessment modalities with and without vertical integration. The greater discrimination in the former implicates better performance differential of in high achievers. VIA is efficient in determining performance differential among medical students, the efficiency of VIA increases with increasing student grade.

**Take-home Messages:** There is a lack of literature surrounding the use of the VIA as an assessment despite its increasing usage in medical education. Our findings demonstrate that the VIA is an efficient means of determining student performance and can be used to differentiate between students.

## #9N Short Communications - Curriculum - Problem-Based Learning / Integration

9N5 (1876)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 2.15, Level 2

### Medical students learning in integrated curricula: A jigsaw puzzle

#### AUTHOR(S):

- Anne Franz, Charité-Universitätsmedizin Berlin, Germany (Presenter)
- Miriam Alexander, Charité-Universitätsmedizin Berlin, Germany
- Torsten Rollinger, Charité-Universitätsmedizin Berlin, Germany
- Hans Hellfried Wedenig, Charité-Universitätsmedizin Berlin, Germany
- Asja Maaz, Charité-Universitätsmedizin Berlin, Germany
- Harm Peters, Charité-Universitätsmedizin Berlin, Germany

#### ABSTRACT

**Background:** Many undergraduate medical programs have moved to an integrated curricular structure, yet key learning resources, such as textbooks, still follow a traditional discipline-based format. There is little empirical information and research, how medical students cope with this mismatch situation.

**Summary of Work:** We conducted a survey with medical students of the modular curriculum of medicine (MCM) at the Charité - Universitätsmedizin Berlin. The MCM represents a fully integrated, outcome-based undergraduate medical program. It is organized in 40 thematic modules, interdisciplinary taught by basic and clinical science disciplines. Students learning is guided by specific learning objectives for each teaching session. The survey asked the medical students for their current use of learning resources and their needs to better support their learning. Students could answer in a multiple answer format. The survey was conveyed online in 2018.

**Summary of Results:** A total of 1,147 medical students responded (response rate: 34%). Students' current learning in the integrated medical program is based on the fragmented use of various learning resources. Leading is the use of learning cards (80%), scripts provided by peer students (69%), own scripts (58%) and a commercially available online system centered around multiple choice questions from state examinations (67%). Text books were used by only 23%. For a better support of their learning in the integrated medical curriculum, students favored scripts for the teaching sessions (58%, for instance provided by session teachers), learning materials that provided feedback (51%, for instance test-enhanced learning systems) and learning cards (43%, for instance an online version).

**Discussion and Conclusions:** The currently existing learning resources lead to a fragment, jigsaw puzzle-like learning for medical students of an integrated medical curriculum. The study reveals the students' needs for better curriculum-alignment learning materials, the provision of short-loop feedback on learning status and systems that facilitate memorization of the knowledge base.

**Take-home Messages:** Learning materials and systems that match the learning in medical students from integrated programs represent an unrecognized and unmet need in undergraduate medical education.

## #90 Short Communications - Social Media and Mobile Learning

901 (169)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 2.31, Level 2

**Conversion to a Customized Learning Platform enables active, formative learning in large size classrooms: students' perceptions of the impact of online assessment using their own devices**

**AUTHOR(S):**

- Debra Sibbald, University of Toronto, Canada (Presenter)

### ABSTRACT

**Background:** The prevalence of personal mobile devices (phones, tablets, laptops) in health professional classes provides an opportunity for formative learning. Exploration of students' attitudes to a new environment for comprehensive digital pedagogy for teaching should be explored.

**Summary of Work:** In 2018 The University of Toronto launched Quercus as a new web-based learning platform to enhance teaching and foster interactivity with students. A pilot study in two therapeutics courses of 242 and 188 pharmacy students was conducted to evaluate the effectiveness of teaching via digital pedagogy using students' live access to personal (own) devices. Random polling tests were conducted throughout each session as prior or formative learning to test understanding and give feedback. 100% of responses were recorded weekly. Perceptions were elicited from web-based surveys, interviews, focus groups and observations for each cohort.

**Summary of Results:** Students in both cohorts reported that Quercus provides a safe and anonymous space for active, stimulating participation; they were able to maintain their concentration during the teaching sessions; it is an effective supportive pedagogy which helps them better understand subject matter. It allows instant feedback on knowledge gaps as the facilitator was able to summarize important issues. No major resistance or hurdles were encountered however speed of access for polling tests varied with locations.

**Discussion and Conclusions:** Positive perceptions focused on learning enhancements, including reinforcement and feedback as well as practical features such as fully engaged participation. Learning dynamics in large classrooms changed, solidifying and reinforcing retention in an enjoyable environment. Speed of access to quizzes with large numbers of synchronous users was identified as the primary limitation.

**Take-home Messages:** Polling on a comprehensive learning platform with personal devices is recommended by students as facilitative pedagogy. Students feel safe to participate actively in large size environments and appreciate instant feedback on their understanding. This effective all-inclusive learning space includes online polling without cost or participant restrictions of commercial digital or hand-held responses systems.



## #90 Short Communications - Social Media and Mobile Learning

902 (3127)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 2.31, Level 2

### Using WhatsApp to enhance students' learning experience in the clinical environment

#### AUTHOR(S):

- Jennifer Thornton, The Rosie Hospital, Cambridge University Hospitals NHS Foundation Trust, UK (Presenter)
- Chivon Verger, The Rosie Hospital, Cambridge University Hospitals NHS Foundation Trust, UK
- Kathy Gallagher, The Rosie Hospital & Addenbrooke's Hospital, Cambridge University NHS Foundation Trust, UK
- Alison Wilson, The Rosie Hospital, Cambridge University Hospitals NHS Foundation Trust, UK
- Michelle Arora, The Rosie Hospital & Addenbrooke's Hospital, Cambridge University NHS Foundation Trust, UK
- Diana Wood, University of Cambridge School of Clinical Medicine, Cambridge University NHS Foundation Trust, UK

#### ABSTRACT

**Background:** 85% of adults now own and regularly use smartphones, and there are an increasing number of smartphone apps available to help facilitate delivery of clinical care and medical education. In particular, today's students are now finding it easier to use instant-messaging apps instead of emails to communicate. Many students find it challenging to identify and make the most of learning opportunities during clinical placements. This is exacerbated by increasing NHS workloads, rota-gaps, shift-patterns and clinical acuity.

**Summary of Work:** We developed a trainee-led 'Student-Buddy Programme' to facilitate students' time management and identification of learning opportunities on wards during maternal and child health attachments. Students volunteered to participate and provide contact details. Their allocated trainee 'buddies' WhatsApped them with the location and brief description of learning opportunities available, so they could attend if they were free.

**Summary of Results:** Forty students and thirty-eight trainees participated. Students valued having a named person to approach if other learning opportunities were cancelled 'when at a loose end'. The programme helped them 'feel less lost and more welcome' in busy and unfamiliar ward environments, providing structure to aid learning and gave 'a flavour of real life clinical medicine'. Students reported greater exposure to practical experiences and some reported to considering O&G or Paediatrics as a career. Trainees found the scheme helped organise teaching around their workload, especially when patients became unwell unpredictably.

**Discussion and Conclusions:** WhatsApp provided a quick, accessible and acceptable means of communication between students and trainee 'buddies'. The WhatsApp photo helped individuals recognise each other. Students valued immediate responses if their timetabled learning opportunities were unexpectedly cancelled. They also liked the safety of having an allocated person they could approach who they knew would be interested in teaching them. As with any other online technology platform, users must remember to maintain patient confidentiality and not include identifiable information when using WhatsApp.

**Take-home Messages:** WhatsApp is an effective tool for facilitating learning opportunities in busy clinical environments. The Student Buddy programme provides a welcoming educational environment for medical students, increases their engagement with clinical staff and improves clinical placement satisfaction rates.

## #90 Short Communications - Social Media and Mobile Learning

903 (134)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 2.31, Level 2

### The Rise of Apps in Medical Education

#### AUTHOR(S):

- **Rhianna Madden-Hansle, University College London Medical School, UK (Presenter)**
- Jenan Younis, University College London Medical School, UK
- Jack Ryan, University College London Medical School, UK
- Yulia Negreskul, University College London Medical School, UK
- Maira Vega-Poblete, University College London Medical School, UK
- Faye Gishen, University College London Medical School, UK

#### ABSTRACT

**Background:** Smartphone applications ('apps') are widely used by students in undergraduate medical education internationally as an adjunct to the learning. They enable easy access to a wide breadth of information. The aim was to explore the current usage of medical applications amongst final year medical students at University College London (UCL) and investigate the need for a university-specific medical education app for this cohort.

**Summary of Work:** A PubMed literature search was completed to inform medical education app use internationally by medical students. A validated questionnaire was identified and used. Final year medical students were asked to take part in an online anonymous survey based on the questionnaire identified. Questions asked included whether participants used medical education apps for learning purposes, which aspects of their learning such apps were utilised for, and limitations to usage. The data was analysed using Chi-squared test for categorical variables.

**Summary of Results:** 72 medical students participated. Survey responders were evenly distributed by gender ( $p > 0.05$ ). The two main areas of usage were firstly question banks, followed by prescribing aids ( $p < 0.001$ ) with question banks being significantly more popular ( $p < 0.001$ ). A number of issues limiting the use of currently available medical apps were identified, namely format and layout (43%;  $p < 0.001$ ), the content not meeting the learning needs (26%;  $p < 0.01$ ) and concerns about becoming deskilled by using apps (11%;  $p < 0.05$ ). 89% of responders expressed a need for a UCL-specific medical education app ( $p < 0.001$ ) with the most popular features being practice questions (89%;  $p < 0.001$ ), administrative information and timetables (73%;  $p < 0.001$ ) and clinical skills resources (69%;  $p < 0.001$ ).

**Discussion and Conclusions:** The results show that apps are widely used in medical education, mainly for accessing question banks and prescribing. Lack of perceived content appears to be the most common cause of dissatisfaction with currently available medical education apps. The majority of students expressed interest in a UCL-specific app, ideally containing a bank of UCL-style questions, suggesting that medical school bespoke education apps may serve as a valuable learning resource.

**Take-home Messages:** Medical school bespoke education apps may serve as a valuable learning resource, especially with content focused on assessment, such as a bank of medical school style questions.

## #90 Short Communications - Social Media and Mobile Learning

904 (1786)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 2.31, Level 2

### Facebook: The new teacher for Generation-Z

#### AUTHOR(S):

- Shazia Irum, Shifa College of Medicine, Pakistan (Presenter)

#### ABSTRACT

**Background:** Social Media have made their way into mainstream of 21st Century's Internet Users, thereby becoming the most widely used means of communication. Institutions and faculties are increasingly adopting social networks, such as Facebook, Twitter and LinkedIn for educational activities. The impact of Social Media on academic performance and its possible usage as effective pedagogical tool is greatly being considered.

**Summary of Work:** A study of 2nd year undergraduate students at private medical college in Islamabad was aimed to obtain preliminary results regarding the improvement or otherwise, with usage of social media amongst 100 2nd year medical student. A quasi-experimental study design was used to find out the influence of Facebook on the academic performance of students. Facebook portal intervention was done in an already existing teaching program. Scores of the students before and after the intervention were compared using SPSS.

**Summary of Results:** The hypothesis was tested by applying paired sample t-test to the data and it shows a significant difference in the two scores. The mean score of the students was  $70.40 \pm 8.81$  and  $72.50 \pm 8.15$  in module 1 and 2 respectively. Perceptions of the students regarding use of facebook were collected, around half (48%) the students agreed that they were using Facebook for academic purposes, 85% of the students found it easy to learn via this medium. 70% students spent on an average more than an hour learning since the content was on Facebook. 85% students agreed that the process of finding material was quicker and more efficient. 79% students agreed that social media must be part of an academic program.

**Discussion and Conclusions:** The study concludes that usage of Facebook can be introduced as an adjunct to the main teaching strategies for improving students' academic performance.

**Take-home Messages:** Social networking sites can be used as an additional strategy, if properly designed and customized according to your context and students requirement.

## #9P Short Communications - Interprofessional Education 3

### 9P1 (784)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room L1, Level 1

### Large-scale interprofessional assessment: a disciplinary focus

#### AUTHOR(S):

- **Chris Roberts, The University of Sydney, Australia (Presenter)**
- Christie van Diggele, The University of Sydney, Australia
- Carl Schneider, The University of Sydney, Australia
- Gillian Nisbet, The University of Sydney, Australia
- Judith Werner, The University of Sydney, Australia
- Inam Haq, The University of Sydney, Australia

#### ABSTRACT

**Background:** The Health Collaboration Challenge (HCC) is a large-scale interprofessional learning activity held annually at the University of Sydney. In 2018, the HCC involved 1,674 health professional students from 11 health disciplines, including dentistry, oral health, nursing, pharmacy, occupational therapy, speech pathology, physiotherapy, dietetics, diagnostic radiography, medicine and exercise physiology. Students were required to collaborate in the production of a video and patient management plan based on a complex patient case. Our study sought to explore students' disciplinary perspectives of the opportunities provided for interprofessional learning within the HCC using a social constructivist lens.

**Summary of Work:** The HCC is a blended learning student-led activity consisting of two assessable components; a five-minute video and an abstract based on a complex patient case. Data collection included student questionnaires, assessment results, peer review results and focus groups. Data were analysed using descriptive statistics and thematic analysis.

**Summary of Results:** The assessment tasks provided numerous learning opportunities; including gaining perspectives of other disciplines; identifying one's role within a team; networking; the value of prior training in team-contribution; and leadership dynamics. Participants felt learning was enriched through the video-assessment activity and indicated they would benefit from additional IPL opportunities throughout their degrees.

**Discussion and Conclusions:** The HCC was acknowledged as a beneficial and worthwhile learning experience for health professional students. Perceived benefits included the development of role identification; perspective exploration; team leadership skills; negotiation skills; and the opportunity to network with other health professions. Although there are many challenges that exist within interprofessional activities, these associated benefits suggest that students would value a practical, longitudinal IPL program.

**Take-home Messages:** Although logistically challenging to implement, the Health Collaboration Challenge activities provide many associated benefits for students, and a foundation on which to build other interprofessional activities.

## #9P Short Communications - Interprofessional Education 3

### 9P2 (741)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room L1, Level 1

### Student participation in interprofessional curriculum development: a focus group study with faculty members and students

#### AUTHOR(S):

- Ronja Behrend, Charité - Universitätsmedizin Berlin, Dieter Scheffner Fachzentrum, Germany (Presenter)
- Anne Franz, Charité - Universitätsmedizin Berlin, Dieter Scheffner Fachzentrum, Germany
- Anja Czeskleba, Charité - Universitätsmedizin Berlin, Dieter Scheffner Fachzentrum, Germany
- Asja Maaz, Charité - Universitätsmedizin Berlin, Team B.A. Nursing, Prodekanat für Studium und Lehre, Germany
- Harm Peters, Charité - Universitätsmedizin Berlin, Dieter Scheffner Fachzentrum, Germany

#### ABSTRACT

**Background:** Participation of medical students in curriculum development has a tradition at the Charité - Universitätsmedizin Berlin. They are recognized as experts of their own curriculum, who can contribute complementary to quality of their educational program. Yet, little is known about student participation in the context of interprofessional curriculum development.

**Summary of Work:** In a qualitative study, we explore the perceptions and experiences of faculty members and students themselves on student participation in interprofessional course development. Two focus groups were conducted. One with faculty members (n=5) and one with students (n=5) who worked together during development of interprofessional education courses. The participants of the focus groups were interprofessional mixed from medicine, nursing, physical therapy and occupational therapy. They discussed about their perceptions and experiences in the interprofessional planning process. The focus groups were audio taped, transcribed and analysed thematically according to Kuckartz (2016).

**Summary of Results:** The quotes by faculty members and students indicate that the students contributed in complementary manner to process and results of interprofessional course design. Students contributed through bringing in an additional perspective and through their concrete work on courses and tutorials materials. Facilitating factors for students' participation were motivation for interprofessional education, clarity on tasks and students' autonomy and a low-hierarchy team atmosphere. Furthermore, students who participated gained knowledge, skills and changed attitude towards interprofessional collaboration.

**Discussion and Conclusions:** Student participation showed positive effects for process and results for in an interprofessional planning process and the students developed professionally during the process. We could identify a number of factors, which should be nurtured to facilitate this effect. Our experiences may stimulate other faculties to involve students in the development of interprofessional education more actively.

**Take-home Messages:** Participation of students yields positive effects on interprofessional course design. Facilitating factors should be considered for a successful student participation in interprofessional projects.



## #9P Short Communications - Interprofessional Education 3

### 9P3 (1261)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room L1, Level 1

### Simulation as a tool for promoting Interprofessional Education (IPE)

#### AUTHOR(S):

- Paphan Musikawat, Maharaj Medical Education Centre, Thailand (Presenter)
- Nisakorn Jantawee, Nakhon Si Thammarat, Boromrajonani College of Nursing (BCN), Thailand
- Pongthorn Jantataeme, Maharaj Medical Education Centre, Thailand
- Panchanok Kaewkul, Maharaj Medical Education Centre, Thailand
- Yupin Muentip, Nakhon Si Thammarat, Boromrajonani College of Nursing (BCN), Thailand
- Chutima Rukbanglaem, Nakhon Si Thammarat, Boromrajonani College of Nursing (BCN), Thailand

#### ABSTRACT

**Background:** Training future healthcare providers together provides opportunities for them to gain interprofessional experience that is of need for being the part of the collaborative practice-ready healthcare workforce. IPE has been done in many institutes, however a little has been done in Thailand particular in clinical skills lab. Maharaj Medical Education Centre (MEC) and Nakhon Si Thammarat, Boromrajonani College of Nursing (BCN) have agreed to conduct IPE training programme as a pilot study. This was to enhance interprofessional experience of medical students and nursing students.

**Summary of Work:** In academic year 2018, Maharaj MEC and BCN worked together to provide IPE programme to medical students and nursing students. Thirty final year medical students and 129 third year nursing students attended the programme. Simulation was used as a tool for studying. It was arranged during weekend, mid academic year. There were three scenarios: Blunt abdominal injury; haemothorax; and CPR for adults. All students needed to perform pretest and posttest IEPS (Luecht et al.1990). In each scenario, global rating scale was also applied for evaluating students' profession-specific and interprofessional competencies. Two-month after 'the simulation', focus group interviews were done in those students and clinical teachers who taught them in clinical settings. This was to explore attitudes and other aspects being gained from the IPE.

**Summary of Results:** The results of paired T-Test showed the statistical significance of positive perception change. Focus group interviews revealed that 'simulation' could help them improve the perception of interprofessional healthcare team-working; knowledge; procedural and communication skills. Students' competencies, being assessed by staff, were met expectation.

**Discussion and Conclusions:** Students recognised the importance of IPE to promote working in a collaborative manner, which led to improve the quality of patient care and enhanced patient safety. However, it needed to have more variety of scenarios, more professions and more frequencies of practices. In conclusion, 'simulation' had a role in promoting IPE.

**Take-home Messages:** Simulation had a role in promoting IPE.

## #9P Short Communications - Interprofessional Education 3

**9P4** (3419)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room L1, Level 1

### Lessons learnt from collaborative attempts across healthcare education programmes: Educator perspectives on developing meaningful interprofessional education interventions

#### AUTHOR(S):

- Joanna Matthan, Newcastle University, UK (Presenter)

#### ABSTRACT

**Background:** Interprofessional education (IPE) may well be the buzzword of the decade in medical education. A recommendation by most professional accrediting and regulatory bodies, institutions scramble to pull together collaborations across healthcare education programmes to meet the urgent need to demonstrate this mode of learning together across professions is embedded within respective curricula. IPE is widely believed to facilitate better understanding across professions, with the ultimate understanding that exposure and collaboration prior to joining the workforce may improve patient care and safety. Logistical challenges, however, may result in tokenistic attempts to placate regulators. Through looking at recent IPE intervention attempts, success factors were sought to plan and develop less tokenistic and more sustainable interventions.

**Summary of Work:** IPE interventions were analyzed to find common themes resulting in successful implementation. Interventions included (1) a periarrest simulation for final-year medical students accompanied by nursing and pharmacy peers, (2) a large-scale novel cross-institutional conference for medical and pharmacy students and (3) a small-scale cross-institutional intervention for medical, physician associate and pharmacy students, and (4) lecture-based preclinical IPE simulations with pharmacy and medical students.

**Summary of Results:** Successful interventions shared common features: they were piloted, had a theoretical underpinning to them, and received institutional level support with financial and administrative measures in place. Small-scale interventions without institutional level backing and logistical support were unsuccessful. Small-scale interventions, even those involving multiple programmes, but with institutional level support, staffing and other resources well thought out and planned in advance were more likely to succeed.

**Discussion and Conclusions:** The logistics of organising IPE interventions are not insurmountable. Institutional buy-in, sufficient staff, administrative support (including room bookings and student timetables), and financial resources must be secured prior to developing interventions. Piloting interventions allows a clearer understanding of the logistical challenges involved with implementing and embedding large-scale interventions across programmes.

**Take-home Messages:** 1. To succeed, IPE interventions require institutional level buy-in, with significant and sustained administrative investments in place; 2. Dedicated staff, with a grounding in the theoretical background, are more likely to make interventions succeed; 3. Small-scale interventions across multiple programmes are more likely to succeed than large-scale cross-institutional interventions.

## #9P Short Communications - Interprofessional Education 3

9P5 (2671)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room L1, Level 1

### Authentic interprofessional placements: how university staff understand and influence placement design

#### AUTHOR(S):

- Stacie Attrill, Flinders University, South Australia, Australia (Presenter)
- Chris Brebner, Flinders University, South Australia, Australia
- Paige Chewter, Flinders University, South Australia, Australia

#### ABSTRACT

**Background:** Interprofessional placements that enable students to develop related practice skills are critical to meet the needs and expectations of employers in many contemporary health workplaces. However, university staff often direct the design of placements to meet students' perceived interprofessional learning requirements, rather than patient needs or to enhance interprofessional work practices. This project identified how university staff's knowledge of interprofessional concepts influenced their design of placement activities for diverse health workplaces.

**Summary of Work:** Twenty-one university staff members from ten health professions who organise or teach students undertaking professional placements participated in a semi-structured interview. Interviews explored participants' understanding of interprofessional education and placements, how professional accreditation processes affect interprofessional training, and future interprofessional placement design. Interviews data were analysed using a Framework Matrix, and interpreted using Giddens's (1984) Structuration theory.

**Summary of Results:** Participants demonstrated a fixed, but incomplete understanding of interprofessional learning and the interface between this and professional accreditation requirements. Their knowledge of interprofessional learning, shaped by the university context, influenced and often limited their design of work-based interprofessional placements and the range of potential activities that students could engage with to accord with university priorities. Categories identified as structural placement barriers were typical of university constraints; including timetabling, whole of cohort experiences, perceived professional accreditation constraints and cost. In designing future placements, participants prioritised known university constructs, including using block placements; traditional clinical models and simulations. Participants did not identify placement designs that prioritised local work practices or activities germane to workplace settings.

**Discussion and Conclusions:** University staff knowledge about interprofessional concepts were structures that influenced and limited how they constructed placements. Their university-based understanding of interprofessional activities set cognitive boundaries that both informed and limited how interprofessional learning may relate to workplaces. This prioritised student learning needs over their participation in authentic interprofessional activities identified and prioritised by workplace staff.

**Take-home Messages:** How interprofessional concepts were understood by university staff were structures that informed how they designed placements. This understanding is likely to differ from interprofessional activities identified by health staff. As such, to ensure authentic student learning experiences that reflect interprofessional activities and priorities germane to health workplaces, university staff should co-design placements with industry.

## #9P Short Communications - Interprofessional Education 3

### 9P6 (1821)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room L1, Level 1

### An interprofessional curriculum co-constructed by healthcare students and teachers

#### AUTHOR(S):

- Sofia Perrotin, Faculté de Médecine Lyon Est, France (Presenter)
- Lucile Wahl, Faculté de Médecine Lyon Est, France

#### ABSTRACT

**Background:** Collaboration between health professionals has been promoted in France by the Hospital-Patients-Health-Territory Act since 2009. Effective interprofessional education (IPE) enables effective collaborative practice as stated by the World Health Organization, and as such should be part of future healthcare professionals' curriculum. Pan-Canadian Consortium for Inter Professionalism in Health published in 2010 a national repository of inter-professionalism competencies to encourage this practice. In Lyon, we are developing an IPE including pharmacy, nursing, social sciences, medicine, physiotherapy and speech therapy. To construct the most appropriate curriculum, we need to understand teachers' and students' objectives and how they expect to work together. Our primary aim will be to explore these objectives and expectations.

**Summary of Work:** A working group was set up in Lyon Est Faculty of Medicine since April 2018, to bring together teachers from the six health and social professions for the implementation of an IPE curriculum. Collaborative partnership between teachers during the construction of this curriculum should help to develop students' interprofessional competencies. To understand both teachers' and students' expectations, we organized a qualitative study with students focus groups and teachers interviews of each profession.

**Summary of Results:** Teachers interviews started in January 2019. Students focus groups are to be organized between February and March 2019. The various components of interprofessional competencies are expected to be discussed as well as the logistics requirements and the assessment modalities.

**Discussion and Conclusions:** An IPE curriculum should be built by a collaborative interprofessional team. Teachers and students from the different profession will take part in its development if they are involved since the beginning. Interprofessional collaboration in healthcare enables more efficient management through shared competencies, especially in a context of increasing complex medical care. Regarding the benefits of this curriculum, we expect increased collaboration for interprofessional-educated students. We hope this study will help future implementation of IPE curriculum in various local contexts.

**Take-home Messages:** An interprofessional curriculum co-constructed by students and teachers, and integrated early in students' training, could foster collaborative practice during studies and future professional life.

## #9Q Short Communications - Simulation 1

9Q1 (3232)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.15, Level 0

### Constructing one day simulation, providing three level benefits. Is it possible?

#### AUTHOR(S):

- Alla Bronshtein, Tel Aviv University, Israel (Presenter)
- Ronny Tepper, Tel Aviv University, Israel
- Yael Gilboa, Tel Aviv University, Israel

#### ABSTRACT

**Background:** Simulation is becoming more commonly used for initial training purposes and for continuing professional development. The literature studies classification of simulation techniques, students and tutors satisfaction with simulation day and its outcomes. However, there is no comprehensive approach for constructing simulation day with multiple level benefits.

**Summary of Work:** We developed simulation day with three level benefit during genecology clerkship, providing: 1. Macro feedback at the department level by valid and reliable tutors questionnaire. 2. Tutors skills development by direct observation and feedback given by professional medical educator. 3. Students clinical skills development by simulation day, including multiple simulation experience, professional medical educator and tutors feedback. Simulation day development was based on John Kotter approach. Simulation day influence and effectiveness was measured at all intervention levels by multiple valid and reliable tools at the end of the simulation day and at the end of the clerkship. 1. Students satisfaction and skill development was measured by Likert scale and open ended students questionnaires, combined with focus group interviews. 2. Tutors satisfaction and skills development was measured by Likert scale and open ended questionnaire, combined with open interviews. 3. Department influence was measured by curriculum text analyses, interviews with head of the clerkship and heads of clinical departments.

**Summary of Results:** Simulation day had significant influence at three levels. 1. Students reported high satisfaction, developed clinical approach and physical examination skills. These results deepened at the end of the clerkship. 2. Tutors reported high satisfaction with the simulation day, developed tutors skills, especially in providing feedback and conducted significant changes during remaining weeks of clerkship after simulation day. 3. At the department level changes were introduced into curriculum at the end of each year.

**Discussion and Conclusions:** Constructing simulation day with multiple level benefit achieves multiple outcomes at students, tutors and department levels. Thus, the approach is worth applying for simulation day at different clerkships.

**Take-home Messages:** Constructing simulation day with multiple level benefits may reduce human and financial resources invested in simulation development, however further research is needed.



## #9Q Short Communications - Simulation 1

### 9Q2 (671)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.15, Level 0

**Innovate, Integrate, Simulate! An innovative approach in cross-speciality simulation: results from an experimental teaching programme on psychiatric emergencies**

#### AUTHOR(S):

- Harriet Greenstone, Avon and Wiltshire Mental Health Partnership Trust, UK (Presenter)
- Kate Seddon, Avon and Wiltshire Mental Health Partnership Trust, UK
- Rebecca Holman, Central and North West London Foundation Trust, UK
- Katie Wooding, Avon and Wiltshire Mental Health Partnership Trust, UK

#### ABSTRACT

**Background:** Use of simulation is well-established in teaching practice across a range of medical specialties. However, to date, simulation has not been fully integrated into teaching of psychiatry. With a growing call for parity of esteem between mental and physical health, the importance of training medics to provide holistic, integrated, high quality care has never been greater.

**Summary of Work:** We created an innovative and unique simulation teaching programme for Bristol medical students on psychiatric emergencies. Between August 2017 and January 2019, a three hour, one-off high fidelity simulation session was offered to undergraduate medical students on their Psychiatry placements in Bristol, Bath, Yeovil and Gloucester. Over sixty students attended sessions run by psychiatric trainees over an 18-month period. In-depth written feedback was gathered and results were analysed.

**Summary of Results:** Quantitative analysis showed that 100% of the students reported an increase in confidence in recognition and management of psychiatric emergencies following the sessions. Analysis of free-text comments showed two main themes, which were consistent across location, group size and facilitator. Firstly relating to the importance and relevance of 'psychiatry knowledge' across all settings, including acute medical settings such as A+E. Secondly the appreciation for the overlap between psychiatry and physical health, and the need to have a thorough understanding of how to manage a deteriorating patient, regardless of place of work.

**Discussion and Conclusions:** These results show the benefits of using simulation to teach psychiatry, not only in improving students' knowledge of psychiatric topics, but also in improving students' ability to integrate care between different specialties. This is important in developing students as well-rounded professionals with adaptable clinical skills, and develops students' abilities to take a person-centred and holistic approach towards patients.

**Take-home Messages:** 1. High fidelity simulation used in psychiatry is innovative but currently underused, despite our results showing excellent outcomes. 2. Simulation teaching improved undergraduate students' self-reported confidence in recognition and management of psychiatric emergencies. 3. Use of 'cross-speciality' simulation is well received by students and promotes integration of physical and mental health, as well as raising awareness amongst undergraduates about the need for psychiatry knowledge in acute settings.

## #9Q Short Communications - Simulation 1

9Q3 (761)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.15, Level 0

**Material Concepts:** Integrating theory and practice during simulation-based training to support procedural skills retention and transfer

### AUTHOR(S):

- Jeffrey Cheung, The Wilson Centre, Canada (Presenter)
- Kulamakan Kulasegaram, The Wilson Centre, Canada
- Nicole Woods, The Wilson Centre, Canada
- Ryan Brydges, The Wilson Centre, Canada

### ABSTRACT

**Background:** Instruction that encourages trainees to integrate conceptual 'why' and procedural 'how' knowledge improves their transfer of procedural skills. For training away from the bedside and direct supervision, questions remain on how to represent the causal relationship between clinical concepts and procedural actions (e.g., how patient anatomy relates to inserting a needle). We varied the modality and level of interactivity when presenting these causal relationships during simulation-based lumbar puncture (LP) training and measured impacts on participants' retention and transfer.

**Summary of Work:** During a 1-hour session, we randomized 66 medical students to one of three instructional interventions: i) procedural-only video-based instruction, ii) integrated video-based instruction, and iii) integrated simulation-based instruction. One-week later, we tested participants' LP skill retention and transfer, and their conceptual knowledge on a written test.

**Summary of Results:** Simple mediation regression analyses revealed that participants receiving integrated instruction had superior LP retention and transfer skills via gains in conceptual knowledge (all  $p < 0.01$ ). We found no significant performance differences between the integrated groups ( $p > 0.01$ ). Participants receiving procedural-only instruction practiced significantly more LPs during training ( $M = 2.36$ ) than participants receiving integrated video-based ( $M = 1.82$ ) and simulation-based instruction ( $M = 1.50$ ),  $p < 0.05$ .

**Discussion and Conclusions:** Trainees' ability to create cognitive connections between conceptual and procedural knowledge appears to improve when they interact with instructional materials highlighting the causal relationships between these knowledge types. Simulation experiences can be designed to make abstract clinical concepts visible using hands-on, interactive modules, which enhances trainees' conceptual knowledge, as well as, their skill retention and transfer. However, integrated instruction reduced participants' time to practice LP scenarios, which may have reduced the effectiveness of our efforts to promote such 'cognitive integration'. We suggest that more advanced trainees with baseline procedural proficiency may experience greater benefits from such integrated instruction.

**Take-home Messages:** Simulation presents a unique education modality for delivering instruction that helps trainees build cognitive connections between the theoretical concepts and procedural actions of clinical skills. Integrated instruction improved trainees' skill retention and transfer, despite reducing how many LPs they could practice. Simulation-based instructional approaches that facilitate cognitive integration may reduce the need for high-tech and high-cost simulations.

## #9Q Short Communications - Simulation 1

### 9Q4 (342)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.15, Level 0

### Teaching old dogs new tricks: Is simulation-based medical education only for novices?

#### AUTHOR(S):

- **Lisbeth Andreasen, Copenhagen Academy for Medical Education and Simulation, Denmark (Presenter)**
- Ann Tabor, Center for Fetal Medicine and Ultrasound, Rigshospitalet, Denmark
- Lone Nikoline Nørgaard, Center for Fetal Medicine and Ultrasound, Rigshospitalet, Denmark
- Charlotte Ringsted, Center for Health Sciences Education, Faculty of Health, Aarhus University, Denmark
- Puk Sandager, Institute for Clinical Medicine, Department of Obstetrics and Gynecology, Aarhus University Hospital, Denmark
- Martin Tolsgaard, Copenhagen Academy for Medical Education and Simulation, Denmark

#### ABSTRACT

**Background:** The majority of studies on simulation-based medical education (SBME) involve novice learners. Experienced clinicians may benefit from SBME, as numerous studies demonstrate inconsistent correlations between competence and clinical experience. Yet, according to expertise-reversal effect theory the structured format of SBME may have negative effects due to interaction with clinicians' prior knowledge. Moreover, experienced clinicians may perform too well for SBME to offer meaningful advancements in their clinical performance. We examined the effect of SBME and its interaction with learners' prior clinical experience on transfer of skills using ultrasonic fetal weight estimation.

**Summary of Work:** Medical doctors from Obstetric departments with different levels of clinical experience were randomized 1:1 to intervention or no training (controls). Participants estimated fetal weight by ultrasound in two pregnant women at term. Birth weights were compared to the estimated fetal weight. The intervention group trained using the virtual reality ultrasound simulator 'Scantrainer' from Medaphor (Cardiff, UK) in addition to their clinical training. The control group continued their clinical work as normal. All participants performed another two fetal weight scans after approximately 2.5 months. Participants in the intervention group were surveyed on their reactions toward the usability of the training format as well as metacognitive aspects of learning through simulation.

**Summary of Results:** The intervention group (n=36) reduced their diagnostic error by 31.9% (95% CI 6.9-50.1) (p=0.02), whereas the control group (n=34) did not (13.1% (95% CI, -17.9 " 55.9), p=0.45). This difference was significant (p=0.02). There was no effect of clinical experience (p=0.54) on the effect of the intervention. Experienced participants rated the usability of SMBE significantly lower than the inexperienced participants (p=0.014) and found that SMBE did not improve their conceptual understanding of ultrasound (p=0.001).

**Discussion and Conclusions:** SBME improved diagnostic accuracy of ultrasonic fetal weight estimation in at-term pregnancies. The amount of clinical experience had no influence on the effect of SBME in our study context. Even experienced clinicians, who demonstrated high initial diagnostic accuracy, were able to demonstrate clinically significant improvements.

**Take-home Messages:** Experienced clinicians can benefit from SMBE in spite of self-perceived lack of benefit.

## #9Q Short Communications - Simulation 1

9Q5 (243)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.15, Level 0

### Does one-on-one medication administration simulation improves nursing students' competencies in the clinical setting?

#### AUTHOR(S):

- Einat Kimhi, Ben-Gurion University of the Negev, Israel (Presenter)
- Rinat Avraham, Ben-Gurion University of the Negev, Israel
- Vlada Shor, Ben-Gurion University of the Negev, Israel

#### ABSTRACT

**Background:** One of the biggest faculty challenges in medication administration (MA) education and practice is to increase student competencies in the clinical setting. One-on-one simulation for MA may increase student involvement in each stage of the MA process and to better prepare him/her for MA in the clinical setting. The aim of this study was to examine the influence of one-on-one vs. grouped MA simulation on clinical setting MA.

**Summary of Work:** A quasi-experimental comparative study was performed with undergraduate nursing students from two subsequent academic years. Self-reported questionnaires estimated students preparedness to MA before and after the simulation. A faculty member assessed students performance during the simulation and in the clinical setting with a tool designed to evaluate MA. Pearson correlation and multivariate linear regression analyses were used to identify predictors of clinical setting MA.

**Summary of Results:** Among students that practice simulation alone (i.e. one-on-one simulation), clinical setting MA was significantly associated with students preparedness ( $r = 0.36$ ,  $p < 0.01$ ), faculty assessment of performance in the simulation ( $r = 0.30$ ,  $p < 0.01$ ), and previous experience with MA ( $r = 0.22$ ,  $p = 0.05$ ). In a multivariate linear regression model, post-simulation preparedness and MA performance during simulation were associated with higher MA performance in the clinical setting ( $\beta = 0.24$ ,  $p = 0.04$ ,  $\beta = 0.21$ ,  $p = 0.07$ , respectively). No significant associations were found among students that practice simulation in groups.

**Discussion and Conclusions:** One-on-one MA simulation is associated with increased students preparedness to administer medication, and improves performance in the clinical setting. Therefore it should be considered in future curricula for undergraduate nursing students. Further study should be designed to examine the long term impact of one-on-one MA simulation on MA in the clinical setting, e.g. reduction of errors.

**Take-home Messages:** A simulation that resembles MA in the clinical setting (i.e. one-on-one simulation) enables better MA performance of the student.

## #9Q Short Communications - Simulation 1

9Q6 (1398)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.15, Level 0

### Improving awareness of medication errors and prevention in nursing students

#### AUTHOR(S):

- Chia-Jung Chen, Taipei Medical University Hospital, Taiwan (Presenter)
- Shu-Yu Kuo, Taipei Medical University, Taiwan
- Sophia H. Hu, Taipei Medical University, Taiwan
- Hui-Wen Chen, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** Medication errors is common and preventable in health care setting. Nurses play an important role in correcting any potential errors by practicing six rights of medication administration. However safe medication administering often becomes challenge in real clinical scenario. The objective of this study is to evaluate the awareness and barrier of safe medication administration in nursing students.

**Summary of Work:** This study enrolled 93 nursing students of a four-year university in Taipei, Taiwan. A clinical simulation scenarios consisted of nine medication errors including wrong patient, wrong drugs, wrong dose, drug compatibility, and allergy related error was developed and carried out before and after safe medication administration class. Participants were expected to identify any errors by using the six right practice. A structured medication administration checklist was used by trained rater to assess student's medication administration skills. Students completed their reflection on barriers of medication administration after the clinical simulation class. Descriptive statistics and frequency analysis was conducted.

**Summary of Results:** The majority of students (93.9%) identified patients correctly using patient identifiers. The correct rate of error identification in dose, medication, allergies, drug compatibility were low (less than 40%) at baseline. After the class, scores of medication errors identification were significantly improved ( $p < 0.01$ ). Students are aware that carefully reading of the drug labelling, speaking-up in any medication errors, further clarifying the drug dose with physicians or pharmacists are of importance to prevent medication error, instead of administering medication without clinical reasoning. Barriers of correctly identification of potential medication errors included wrong belief of 100% error-free prescribing or dispensing system, insufficient clinical experiences, and pressure of fast-paced work environment.

**Discussion and Conclusions:** Clinical simulation training is effective on improving awareness of safe medication administration in nursing students. Students tend to overlook the carefulness and clinical reasoning required for medication administration. Further simulation training addressing safe medication administration in real clinical situation like heavy workload is warranted.

**Take-home Messages:** Enhancing awareness of medication administration errors using clinical simulation scenarios is a helpful education strategy for optimal medication safety.



## #9R Short Communications - Postgraduate Education: Family Medicine

### 9R1 (1836)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.16, Level 0

### Using an innovative app based tool to enhance experiential learning and reflection

#### AUTHOR(S):

- Christine Cook, GPEX, Australia (Presenter)
- Taryn Elliott, GPEX, Australia
- Sumanta Ghosh, GPEX, Australia

#### ABSTRACT

**Background:** Experiential learning and reflective practice are both core elements of family medicine training. To master skills across the broad curricula required within family medicine, it is essential to have experienced a broad range of consultations during training. Evidence of this experience is often required to fulfil family medicine training requirements. Traditionally, collating this evidence has been time-consuming, difficult and not easily linked to reflection and learning goal development. This paper describes an online and app based system that makes this process simple, accessible and clearly linked with reflection and learning.

**Summary of Work:** GPEX, the training organisation in South Australia delivering the training and education to doctors (GP registrars) specialising in family medicine, developed an innovative app and online tool, GP Explore. This tool assists GP registrars, their supervisors and GPEX to better understand patient diversity and patient load. GP Explore provides: - a simple online or app based interface to enter de-identified patient data; - automatic generation of individualised graphs to show comparative patient diversity and load; - easy access to individual data summaries which can be manipulated by the user to interrogate their patient data; - a clear and integrated process for reflection and generation of learning goals; - reporting tools for the training provider to interrogate group level data.

**Summary of Results:** GP Explore was introduced to all GPEX GP Registrars in 2018 (n=316). 93% GP registrars completed GP Explore. On average, data entry took less than 30 seconds per patient record. Medical educators reported that 100% of GP registrars who used GP Explore identified gaps in their consulting. 89% of supervisors reported that GP Explore was useful to identify gaps in GP registrar patient diversity and inform learning opportunities.

**Discussion and Conclusions:** GP Explore has assisted GP registrars and practices to efficiently review and improve GP registrar experiential learning opportunities. In addition, it has provided benefits to the Training Organisation in regards to quality assurance, quality improvement and decision-making.

**Take-home Messages:** GP Explore is an effective, scalable, innovative app based tool which has demonstrated benefits for GP registrars, teaching practices and the training provider, showing potential for application across different contexts.

## #9R Short Communications - Postgraduate Education: Family Medicine

**9R2** (2880)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.16, Level 0

### Evaluating the Impact of 'Next Generation GP': A national leadership programme for GP trainees and early career GPs

#### AUTHOR(S):

- Sarah Burns, St Mary's Surgery, UK (Presenter)
- Hannah Morgan, The Elms Practice, Elm Grove, UK
- Nishma Manek, UK
- Mohana Ratnapalan, Portsmouth Hospital NHS Trust, Southwick Hill Road, Cosham, UK
- Johnny Lyon-Maris, GP Education Unit, Southampton University Hospital Trust, UK
- Samantha Scallan, GP Education Unit, Southampton University Hospital Trust, UK

#### ABSTRACT

**Background:** Leadership is a key competency in the UK GP training curriculum. However, it is known that GP trainees can complete training without a clear understanding of the complex NHS system they will work within and lacking the skills to lead change effectively. 'Next Generation GP' is a national leadership programme for trainees and newly qualified GPs. It aims to: energise participants through contact with inspiring local and national leaders, facilitate their engagement in peer-networks, and empower participants with the skills and knowledge to lead change within their practice workplace and beyond.

**Summary of Work:** The 'Next Generation GP' programme comprises six evening sessions over 6 months; in each two leaders share their experience in an interactive workshop. Between February 2017 and December 2018, 428 participants took part in 7 courses running in 6 locations across the UK. All participants (n.428) completed a ten question pre- and post-course evaluation looking at their knowledge of and learning about leadership, as well as space for free text reflections.

**Summary of Results:** Responses were analysed pre- and post-session, within and between locality cohorts. Overall, participants reported improvement in: knowledge of the structure of primary care in the NHS and its relationship with wider healthcare services, leadership skills, greater confidence and motivation to take up leadership opportunities - many participants reported the intention to take up leadership roles in organisations such as clinical commissioning groups or local medical committees. Free text responses were grouped by theme, revealing four headline areas: 'inspiration,' 'conversations with leaders,' 'confidence,' and 'personal action /development.'

**Discussion and Conclusions:** Findings from the evaluation suggest that the 'Next Generation GP' programme is meeting a need for leadership education for GP trainees and newly qualified GPs at the point of transition to a complex and rapidly changing NHS. The programme actively promotes engagement in local leadership networks and roles both during training and in the early years post qualification. The evaluation findings will inform future developments such as virtual networking and follow up engagement activities.

**Take-home Messages:** 'Next Generation GP' is supporting trainees and recently qualified GPs to become the leaders of tomorrow.

## #9R Short Communications - Postgraduate Education: Family Medicine

### 9R3 (786)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.16, Level 0

### GP Trainees' experience of learning opportunities and support mechanisms on the GP vocational training programme: A qualitative interview study

#### AUTHOR(S):

- Nadia Fisher-Plum, University of Southampton, UK (Presenter)
- Sally Curtis, University of Southampton, UK
- Geraldine Leydon, University of Southampton, UK
- Hazel Everitt, University of Southampton, UK

#### ABSTRACT

**Background:** General Practice (GP) plays an important role in the NHS and is currently facing unprecedented pressures with increasing workload and work force issues. Enabling GP Trainees to successfully complete their training and become independent practitioners is crucial to addressing these challenges. Understanding why some trainees do well and others do not can be a step towards achieving successful completion of training.

**Summary of Work:** This aim of this qualitative study was to explore GP Trainees experience of learning opportunities and support available during the three year vocational training programme in the Southampton GP Educational Unit by identifying highlights and difficulties in training. 15 interviews were undertaken with participants from four cohorts. These were audio-recorded and transcribed. Data were analysed and inductive thematic analysis was undertaken.

**Summary of Results:** Trainees identified several highlights including good rotations, protected time for teaching and supportive clinical supervisors. Feeling valued in their posts, passing exams and forming friendships with peers were also mentioned. Difficulties in training included busy rotations, long working hours, understaffed rotations and keeping up with training requirements. Most participants felt supported during their training. One interviewee experienced significant difficulty and required an extension of training. They reported challenges including communication difficulties, multiple exam failures and difficulty finding a consistent group of peers to revise with.

**Discussion and Conclusions:** Most trainees enjoyed their training experience, reporting the training programme prepared them to become independent practitioners and allowed them to develop professional relationships and to form friendships and support groups. Relationships with peers, trainers and programme directors were the main source of support. It was difficult to recruit participants who had experienced difficulty and this limited our ability to explore key challenges. These trainees may face challenges, which may impede the development of supportive relationships and this requires further exploration.

**Take-home Messages:** Most trainees successfully complete their GP training and find the experience positive. However there is a group of trainees who experience significant difficulty and are hard to reach. Finding ways of reaching this group is important in understanding and addressing key challenges they face.

## #9R Short Communications - Postgraduate Education: Family Medicine

### 9R4 (3470)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.16, Level 0

### A novel approach to fostering the development of scholarly competence: Capacity building in a distributed family medicine residency training program

#### AUTHOR(S):

- Joel Andersen, Northern Ontario School of Medicine, Canada (Presenter)
- Tim Dubé, McGill University, Canada

#### ABSTRACT

**Background:** Future physicians must develop research and scholarly competence as they prepare for practice in the 21st century. For Family Medicine programs in Canada, there is a requirement that residents are provided with formal learning opportunities to develop scholarly competence. However, there are notable similarities and differences in how research and scholarship is taught across residency training programs, including traditional instructional approaches such as didactic lectures and research block rotations. Furthermore, programs that are distributed across a large geography must consider novel approaches to curriculum delivery.

**Summary of Work:** At the Northern Ontario School of Medicine (NOSM) in Canada, the distributed community-engaged learning model partners learners and communities throughout a vast land covering 800,000 km<sup>2</sup>. Family Medicine residents undertake clinical experiences across dozens of communities; therefore, it is imperative that they are provided with comparable research and scholarship opportunities. Resident feedback informed the renewal of the research curriculum and the instructional strategies. Further, faculty tutors in several communities were recruited to localize the teaching and supervision, foster the development of scholarly competence, and more closely align residents' projects with clinical and contextual needs of the community.

**Summary of Results:** The resulting changes to the program have led to a reduction in didactic teaching, increased access to helpful tools and resources through distributed online learning, and augmented the relevance of the research curriculum to clinical practice.

**Discussion and Conclusions:** Significant improvements were made in terms of both curriculum content and delivery. By leveraging NOSM's distributed model, it is possible to build research capacity among faculty tutors. It appears that increased resident engagement has been stimulated by the opportunities to address contextually relevant primary care research priorities.

**Take-home Messages:** It is important to consider the various perspectives when undertaking the renewal or the development of a research curriculum. Context matters and practice-informed projects that align with research interests of community-based faculty has the potential to better support residents in their scholarly activities.

## #9R Short Communications - Postgraduate Education: Family Medicine

9R5 (1582)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.16, Level 0

### Revealing tacit knowledge about facilitating reflection for teacher professionalization

#### AUTHOR(S):

- **Mario Veen, Erasmus Medical Centre, Rotterdam, the Netherlands (Presenter)**
- Marije van Braak, Erasmus Medical Centre, the Netherlands
- Esther Girolidi, Maastricht University, the Netherlands
- Pieter van den Berg, Erasmus Medical Centre, the Netherlands

#### ABSTRACT

**Background:** Reflection education is at the core of Exchange of Experiences-sessions (EoE) during the weekly day release of Dutch GP residents. During EoE, 8 to 15 residents collaboratively reflect on practice experiences. One or two teachers facilitate the process. Teachers and residents value the EoE-sessions highly. Yet, facilitating group reflection is a complex skill (Veen & de la Croix, 2016), especially for beginning teachers. Many best practices are tacit knowledge of experienced EoE-teachers, making them non-transferable and inaccessible to beginning teachers. This situation hinders teacher professionalization.

**Summary of Work:** We aimed to reveal the tacit knowledge (goals and strategies) behind facilitation of reflection. We collected curricular material on EoE that Dutch GP training institutes provide to their teachers and conducted video-stimulated interviews with 35 teachers. Teachers were stimulated to comment on their theories behind their actual, recorded practice. Using Template Analysis (King, 2012), we deduced an initial list of goals and strategies provided in the curricular material. We then used this initial coding template to code the teacher interviews for additional goals and strategies behind EoE-facilitation.

**Summary of Results:** The qualitative analysis revealed a rich diversity of facilitation guidelines. Goals behind EoE varied between institutes and teachers, e.g. 'learn to reflect versus learn to participate in group discussion. Similarly, strategies mentioned could conflict between institutes and teachers, e.g. 'give residents turns at talking' versus 'encourage resident's own initiative' to stimulate residents' independent reflection processes. Overall, teachers' reported goals and strategies only partially aligned with those in the curricular material.

**Discussion and Conclusions:** This inventory of goals and strategies reveals the tacit knowledge behind facilitating reflection during EoE. Its diversity, which might have been induced by the relative lack of formalized guidelines, highlights the complex job of facilitating reflection. Our analysis allowed us to connect the formal curriculum with practice, opening up possibilities to enhance the formal curriculum. Eventually, the tacit knowledge thus revealed can form the basis for teacher training rooted in practice.

**Take-home Messages:** Teachers' tacit knowledge behind reflection facilitation in GP training varies widely. Combined analysis of curricular materials and video-stimulated teacher interviews proved a powerful tool to reveal that knowledge for future teacher professionalization.



## #9R Short Communications - Postgraduate Education: Family Medicine

9R6 (2517)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.16, Level 0

### The hidden pervasiveness of therapeutics in the assessment of family medicine trainees' applied knowledge: an analysis of a year's SBA test statistics with lessons for training programmes

#### AUTHOR(S):

- Chris Elfes, Royal College of General Practitioners, England, UK (Presenter)
- MeiLing Denney, Royal College of General Practitioners, Scotland, UK
- Richard Wakeford, University of Cambridge, UK

#### ABSTRACT

**Background:** The applied knowledge test (AKT) of the mandatory MRCGP examinations for UK trainee family physicians comprises 200 items, mainly one-from-five SBAs. It is blueprinted onto a curriculum content specification and computer delivered three times a year. Passmarks are achieved using Angoff (plus measurement error estimate) and linear equating.

**Summary of Work:** We classified each of 600 items in the three 2017/18 AKT diets as: a) either blueprint-categorised as 'therapeutics' or expert-identified as 'therapeutics-dependent' (though otherwise blueprinted, e.g. 'cardiology'), hereinafter collectively 'therapeutics' items, or b) non-therapeutic items. We examined the 'therapeutics' and 'non-therapeutics' items' scores of all 3,987 candidates in these diets, classified by candidate attempt, gender, binary ethnicity (white, non -white), and degree source (UK/International).

**Summary of Results:** Although only an average of 2.5% of test items were actually blueprinted as 'therapeutics', 27.3% were identified as 'therapeutics-dependent'. Analyses based on all candidates showed the therapeutics items significantly harder than non-therapeutics (mean scores 70.2% and 73.3%, respectively,  $p < 0.001$ ). First attempt candidates were 88.9% UK graduates, 66.2% female, and 54.6% white; significant score differences on both item groups favoured females, UK graduates and white candidates ( $p < 0.001$ ); pass rates were 83.3% for UK graduates and 42.6% for international graduates, resulting in a changing candidate balance for subsequent attempts (e.g. 44.8% UK graduates on second attempt). Statistical explorations of performance by attempt showed that overall differences in difficulty between therapeutics and non-therapeutics items disappeared after the second attempt, though in the second attempt it was still substantial (mean difference 3.6%,  $p < 0.001$ ). Differences favouring females, UK graduates and white candidates ceased after the first attempt.

**Discussion and Conclusions:** Questions requiring therapeutics knowledge represent a far more significant proportion of a carefully blueprinted general family medicine applied knowledge test than previously recognised - over a quarter of items. They are found harder than non-therapeutics items overall and by candidate sub-groups. Training programmes should place greater emphasis on therapeutics, particularly for candidates failing the AKT on first attempt.

**Take-home Messages:** Despite appearing relatively insignificant in a curriculum blueprint, applied therapeutics knowledge permeates a specialist family medicine knowledge test and performance on relevant items is comparatively poor.

## #9S Short Communications - Management 2

9S1 (2952)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1600-1615

**Location of Presentation:** Room 0.51, Level 0

### The relationship between federal state budgets and the results of the second part of medical licensing exam in Germany

#### AUTHOR(S):

- Jana Jünger, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy (IMPP), Germany (Presenter)
- Oliver Klimanski, IMPP, Germany
- Richard Lux, IMPP, Germany
- Hossein Shahla, IMPP, Germany
- Eckard Nagel, Institut für Medizinmanagement und Gesundheitswissenschaften, Germany

#### ABSTRACT

**Background:** In Germany, about 11,000 students begin medical studies every year, which end with an examination at the end of the clinical part with different results between the universities. The studies are regarded as one of the most expensive educational programs in Germany with a total cost around €200,000/student. These costs are paid by the state, so the students don't have to pay tuition fees. However, the state grants to universities vary from €45 million to €185 million per year. The aim of the study was to analyze to what extent the federal state budget is an indicator for a successful result of the German medical licensing examination.

**Summary of Work:** With regard to the correlation of budget and examination results, the results of the clinical part of the medical study examination were chosen as the outcome parameter, as these are carried out in a standardised manner twice a year and thus permit excellent comparability of the candidates. Variables were gender, proportion of students with German citizenship, student career in the pre-clinical phase, school report and school leaving certificate due to differing medical faculty admission criteria (best school-leaving examination ratio, waiting times, selection procedures). As it was assumed that the amount of budget had a delayed effect on examination results (dependent variable), a 3-year delay was calculated for the correlation. The calculations also included the independent variables '€1,000 per student/year' and 'professor-student ratio'. Two time series were used for analysis: 2009-2011 and 2012-2014.

**Summary of Results:** The time series showed that the test results were significantly influenced by the selected variables. After adjustment, the effect was increased and the variable '€1,000 per student/year' is significant in the second time series (b-coefficient: .548). The variable professor-student-ratio has no significant influence. The explained sum of squares of the two time series can be attributed to approximately 7% respectively 20%.

**Discussion and Conclusions:** Even first results show that a higher budget generates better exam results than a lower one but the explained sum of squares is very small. The results can contribute to the discussion on the rational use of public funds in medical education.

**Take-home Messages:** Finally, public funding can influence the exam results.

## #9S Short Communications - Management 2

### 9S2 (1000)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1615-1630

**Location of Presentation:** Room 0.51, Level 0

### Forging a new identity: experiences of, and perceived attitudes towards, Physicians Associates

#### AUTHOR(S):

- **Megan Brown, Hull York Medical School, UK (Presenter)**
- William Laughey, Hull York Medical School, UK
- Gabrielle Finn, Hull York Medical School, UK
- Martin Veysey, Hull York Medical School, UK

#### ABSTRACT

**Background:** Physician Associates (PAs) are relatively new within the UK, although the government aims to increase recruitment (BMA 2017), citing time and cost benefits (Drennan et al 2015). Given their emergent status, PAs are still defining their professional identity (PI), defined as 'a representation of self ... resulting in an individual thinking, acting and feeling like a [PA]' (Creuss et al 2014). New fields of practitioners often encounter prejudicial attitudes (Jackson 2017), with the attitudes one perceives from others affecting PI within adjacent professions (Creuss et al 2015). We explored student PA's experiences, including attitudes they encounter, to evaluate their needs as developing professionals.

**Summary of Work:** Two Hull York Medical School (HYMS) authors (MB, WL) conducted semi-structured interviews with 19 PA students at HYMS and University of Sheffield. Research was conducted in line with a general inductivist approach (Thomas, 2006). Interviews were transcribed verbatim and independently coded by two researchers inductively. All researchers conducted thematic analysis, using the thematic network approach (Attride-Stirling 2001). Themes concerning identity formation and role perception were explored, and links made to explain findings.

**Summary of Results:** Key negative themes identified were: mistaken identity, negative role perceptions and lacking political support. PAs were frequently referred to as medical students and encountered negativity from staff and patients, sometimes precipitating 'identity crises'. Many also felt pressure to be role ambassadors, given the novelty of their profession. Key positive themes included recognizing supportive influences for identity development: continuity; autonomy; graduate status and clinical skills acquisition. Resilience was noted as indispensable.

**Discussion and Conclusions:** Identity dissonance was common due to poor access to PA role models and lacking identity support. Perceived attitudes towards students from staff were mixed with a recent increase in positivity, secondary to role familiarity. Yet, resistance and role ignorance persisted, proving destructive. In response to negativity, some students withdrew from learning, while others built resilience, highlighting how individuality determines how attitudes impact identity.

**Take-home Messages:** Perception of PAs is improving, yet students often initiate advances. Harmful influences and dissonance have propagated from a lack of focus on PA identity. Medical educators must provide support for student PA identity development to ensure career and, therefore, PA workforce success.

## #9S Short Communications - Management 2

9S3 (1972)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1630-1645

**Location of Presentation:** Room 0.51, Level 0

### Adopting a Quality Improvement Framework to improve Undergraduate Medical Education

#### AUTHOR(S):

- Anum Pervez, Royal Free Hospital, UK (Presenter)
- Charlotte Pallett, Royal Free Hospital, UK
- Brian Craven, Royal Free Hospital, UK
- Momin Ahmed, Royal Free Hospital, UK
- Efthimia Karra, Royal Free Hospital, UK
- Paul Dilworth, Royal Free Hospital, UK

#### ABSTRACT

**Background:** Quality Improvement (QI) has been developed over the past few decades and has proven successful in many healthcare settings, from patient (and population) outcomes to organisational (and system) performance. The science of QI involves reviewing and implementing rapid change strategies through a systematic framework to deliver sustained improvement. The use of QI within the field of undergraduate teaching has remained unexplored with no evidence of it in the current literature. We have thus adopted a QI approach in the delivery of the Undergraduate Medical Education Programme in a major London Teaching Hospital.

**Summary of Work:** The main aim statement of our QI project ('how good, by when') was to improve student feedback to meet 95% positive experience over a twelve-week period. In order to implement the necessary rapid feedback cycles, we selected the two-week haematology rotation of 4th year medical students. We began by engaging our stakeholders, who included the Haematology department (Junior Doctors, Consultants and Specialist nurses), Undergraduate Teaching Department (Clinical Teaching Fellows, Administrative team, Sub Dean), a QI coach and the 4th year medical students. Using a nominal group technique, we developed our driver diagram to generate change ideas. We then implemented the changes through several PDSA cycles (Plan, Do, Study, Act).

**Summary of Results:** The following change ideas were implemented: redesign of the timetable, local departmental induction, immediate point of contact for students and end of rotation case presentations. During each PDSA cycle, we tested the impact of the intervention and redesigned further changes according to the student response. Overall, student experience significantly improved from 58% to (final results pending), demonstrated in a run chart.

**Discussion and Conclusions:** Effective and high quality Undergraduate teaching is essential in training the future workforce. We were able to demonstrate how the implementation of QI methodology (by stakeholder engagement and PDSA cycles) can achieve significant improvement in the student experience. This method can also be adopted in other areas within Undergraduate teaching.

**Take-home Messages:** The science laid out in the QI framework can be effectively used to improve student experience in the Undergraduate teaching programme.

## #9S Short Communications - Management 2

9S4 (2773)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1645-1700

**Location of Presentation:** Room 0.51, Level 0

### Transition to academic autonomy of medical universities in Kazakhstan

#### AUTHOR(S):

- Viktor Riklefs, Karaganda Medical University, Kazakhstan (Presenter)
- Anar Turmukhambetova, Karaganda Medical University, Kazakhstan
- Alma Muratova, Karaganda Medical University, Kazakhstan
- Aliya Bukeyeva, Karaganda Medical University, Kazakhstan
- Aigul Munassipova, Karaganda Medical University, Kazakhstan

#### ABSTRACT

**Background:** Three Kazakhstan medical universities participate in Erasmus+ CBHE project Transition to university autonomy in Kazakhstan (TRUNAK). The partners from European Association of Universities (EUA) analysed the status of university autonomy in Kazakhstan and gave recommendations. The primary goal for the project is to develop the model of autonomy that suits the country and create the consulting group for sustainability of project results and providing assistance to other universities to transit to autonomy.

**Summary of Work:** Having analysed the survey results from several medical and non-medical universities in Kazakhstan, EUA experts gave recommendations for university to take much more active part in selecting its students, defining quantity and qualifications of its teaching staff, completely defining the contents of its educational programs. KSMU created a working group to analyse the feasibility of these recommendations and to create the model for autonomy.

**Summary of Results:** All medical universities in the country gathered for discussion of the future model of autonomy. The participants expressed significant concerns on feasibility of all recommendations for the current state of development of medical education in the country. The population in the country is not yet ready for free selection of students by universities, the content of educational programs needs to reflect national healthcare priorities, the universities do not yet feel confident to completely regulate qualifications and quantity of staff. Besides that, autonomy requires well-developed external and internal quality assurance system; the increased academic autonomy needs to be accompanied by staff development and training.

**Discussion and Conclusions:** While all medical Universities in Kazakhstan recognize the benefits of academic autonomy, they express serious concerns on feasibility of immediate autonomy. There needs to be elaborations on gradual and consistent approach to transformation. Academic autonomy goes hand in hand with quality assurance and responsibility. It is first necessary to set up those before adopting full academic autonomy.

**Take-home Messages:** The academic autonomy in countries with former direct governmental control is best achieved through collaborative efforts of universities participating in joint projects with universities where academic freedom and quality assurance has already become the inherent and inseparable part of educational process.



## #9S Short Communications - Management 2

9S5 (228)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1700-1715

**Location of Presentation:** Room 0.51, Level 0

### Nurse-scientists as advocates for nursing: identity development over a two year leadership programme in nursing research

#### AUTHOR(S):

- Manon Kluijtmans, University Medical Center Utrecht, the Netherlands (Presenter)
- Shaun Cardiff, Fontys, the Netherlands
- Thóra Hafsteinsdóttir, University Medical Center Utrecht, the Netherlands
- Marieke Schuurmans, University Medical Center Utrecht, the Netherlands

#### ABSTRACT

**Background:** Clinician-scientists, such as nurse-scientists, are bi-directional (knowledge) brokers between care and research. By connecting these fields, they strengthen patient-orientation in research, and enhance clinical application of research and innovation in care. International concern exists about the low numbers among this important category of scientists. The 'Leadership and Mentoring in Nursing Research (LMNR)' programme was developed for postdoctoral nurse-scientists to stimulate research capacity within the nursing science field. Formation of an integrated professional identity is considered an important learning outcome of clinician-scientist programme's to enhance brokering and career resilience.

**Summary of Work:** We studied professional identity development over the course of a two-year leadership programme for nurse-scientists. Semi-structured interviews were conducted with the LMNR participants: first upon starting in 2016 (n=12: 25% male, age 43 [range 30-54] year), midterm in 2017 (n=11), and lastly after graduation in 2018 (n=10). Interviews were transcribed verbatim, thematically analysed and discussed using dialogical self theory. Results were member-checked.

**Summary of Results:** During the programme all participants were engaged in postdoctoral research (n=12), often combined with education (n=8), and less frequently with patient care (n=4), or policy and/or management (n=3). Over the course of the programme two participants stopped for personal reasons. Participants reported increased awareness of their different identity positions as a researcher and a nurse. Many then released this dichotomy for a new identity as 'scientist leader of and for nursing and nurses'. Their clinical identity expanded from being an active specialist clinician to becoming an active member of a wider community with trans-specialist interests. Fundamentally, there was a strong desire to retain a nurse identity. Participants maintained acceptance among nursing peers while strengthening (group) connection with nurse-scientist peers as they sought innovative ways of embedding themselves within the wider field of nursing, aiming to enable/lead (knowledge) brokerage between the worlds of (nursing) science and practice.

**Discussion and Conclusions:** The leadership programme strengthened and solidified a nurse-scientist leader identity. Although literature defines clinician-scientists as researchers active in direct care, our study indicates that clinical practice as 'hands-on care' is not necessarily a prerequisite for strong nurse-scientist identity.

**Take-home Messages:** Nurse-scientists can be strong advocates for nursing, even when no longer active in patient care themselves.

## #9S Short Communications - Management 2

9S6 (2565)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Presentation:** 1715-1730

**Location of Presentation:** Room 0.51, Level 0

### Teaching Medicine to a General Public: How to Assess If Your Audience Is Learning

#### AUTHOR(S):

- **Malgorzata Kaminska, University of Northern British Columbia, Northern Medical Program, Canada (Presenter)**
- Trina Fyfe, University of Northern British Columbia, Northern Medical Program, Canada
- Cirisse Stephen, University of British Columbia, Northern Medical Program, Canada
- Lisa Munro, University of Northern British Columbia, Northern Medical Program, Canada
- Sonya Kruger, University of Northern British Columbia, Northern Medical Program, Canada
- Lindsay Mathews, University of Northern British Columbia, Northern Medical Program, Canada

#### ABSTRACT

**Background:** Many public medical education programs, such as Mini Med Schools (MMS), frequently limit evaluations to self-reported learner satisfaction. An evaluation program is most helpful when it focuses on Kirkpatrick's hierarchy levels of learning and transfer. Instruments like retrospective pre/post surveys (RPPS) can assess interventions where a shift in learners' understanding can be expected, while script concordance tests (SCTs) can measure clinical reasoning skills in healthcare learners. Could RPPS and SCTs be used to evaluate MMS programs?

**Summary of Work:** We organized a MMS for the general public consisting of 2-hour weekly for 6 weeks lectures on basic science and biomedical topics, delivered by our medical faculty, and covering the same material as regular medical school lectures. RPPS and SCTs were administered to all participants at the end of each lecture.

**Summary of Results:** Of the 59 participants (<16 to 69 years old) 30% possessed a college education, 24% had less than a high school diploma, and 20% had a bachelor's degree or higher. RPPS showed an increase of at least 2 points on a 6-point Likert scale. The SCTs' Cohen d effect size between participants and experts was 2.81 (98% response rate), remaining unchanged with a repeat SCT administered 8 weeks post-MMS (47% response rate). The SCT instrument reliability index (Cronbach's alpha) was 0.69. 98% of participants found the assessments to be 'fun and useful'.

**Discussion and Conclusions:** The RPPS consistently showed a significant self-assessed increase in understanding of the material presented. The ability of our varied non-medical participants to apply their newfound medical knowledge in SCTs was within the effect size typical for medical students. The ability to apply this knowledge 2-3 months later was maintained over time. We are unaware of any other published quantitative data regarding knowledge increase, application, and retention in MMS participants. Most MMS intend to increase the public's health-related knowledge but seemingly only capture enjoyment-related data. Our project suggests that there are easy, reliable, and well-received ways to measure knowledge acquisition and application using RPPS and SCTs.

**Take-home Messages:** The use of RPPS and SCTs can be used to help guide and improve a MMS curriculum, thus ensuring that the intended knowledge is successfully transmitted.

## #9T Round Table – Accreditation and Dimensions of Medical Education

### 9T1 (3188)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Room L5, Level 1

### ECFMG's 2023 Accreditation Requirement - Raising Medical School Standards Worldwide

#### AUTHOR(S):

- Lisa Cover, Educational Commission for Foreign Medical Graduates (ECFMG), USA (Presenter)
- John (Jack) Boulet, Foundation for Advancement of International Medical Education and Research (FAIMER), USA
- Christine Shiffer, Educational Commission for Foreign Medical Graduates (ECFMG), USA

#### ABSTRACT

ECFMG Certification is required for international medical graduates (IMGs) to enter U.S. graduate medical education and obtain an unrestricted medical license. Historically, ECFMG Certification has focused almost exclusively on evaluating individual graduates, not their medical schools. Several factors have motivated ECFMG to enhance its criteria to include ensuring the medical school meets international standards for medical education: 1) medical education quality and accreditation systems vary widely; 2) the explosive growth of medical schools compounds these issues; and 3) some questionable medical school business practices create challenges for students and tarnish the reputation of legitimate international medical schools.

Starting in 2023, applicants for ECFMG Certification must be a student or graduate from a medical school that is accredited by an accrediting agency recognized by the World Federation for Medical Education (WFME). WFME's recognition criteria, based on guidelines developed by the World Health Organization and WFME, provide flexibility for the development of accreditation standards that fit the context of a country's medical education system, while also ensuring that the schools being accredited by the agency meet rigorous quality measures.

## #9T Round Table – Accreditation and Dimensions of Medical Education

### 9T2 (490)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Room L5, Level 1

### A hands-on, how-to guide to the development of a medical education accreditation system

#### AUTHOR(S):

- Sarah Taber, Royal College of Physicians and Surgeons of Canada, Canada (Presenter)
- Tim Dalseg, Royal College of Physicians and Surgeons of Canada, Canada
- Tara Phillips, Royal College of Physicians and Surgeons of Canada, Canada
- Fedde Scheele, VU Medical Center, the Netherlands

#### ABSTRACT

Accreditation is a key feature of many medical education systems, helping to ensure that programs teach and assess learners according to applicable standards, provide optimal learning environments, and produce professionals who are competent to practice in challenging and evolving health care systems. There can be substantial variation among accreditation systems at the level of design and implementation. Little is known about the effectiveness of certain design considerations and their applicability to different contexts.

A “fit for purpose” framework for the operational design of medical education accreditation articulates design options as well as their contextual and practical implications. It assumes there is no single set of best practices in accreditation system development but, rather, an underlying set of design decisions.

The success of introducing a new or modified system of accreditation is determined not only by the system design but also by the methodology employed in its implementation, which must reflect both the scope and impact of the change and the inherently high-stakes nature of accreditation in many jurisdictions.

## #9T Round Table – Accreditation and Dimensions of Medical Education

### 9T3 (2164)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Room L5, Level 1

### Using Accreditation as an Opportunity to Advance Education and Evaluation in Health Professions Education

#### AUTHOR(S):

- **Maryam Wagner, McGill University, Canada (Presenter)**
- Theresa Beesley, McGill University, Canada
- Carlos Gomez-Garibello, McGill University, Canada
- Mara Kontopoulos, McGill University, Canada
- Tina Russo, McGill University, Canada
- Patricia Wade, McGill University, Canada

#### ABSTRACT

One of the primary goals of all health profession faculties is to train learners to deliver the highest standard of healthcare. Achieving this goal is dependent on numerous factors including the quality of the curriculum and its delivery, principled assessment, as well as a continuous process of program evaluation to systematically collect information about the extent to which programs are achieving their goals. Typically, these educational facets have been seen distinct from accreditation processes, which are perceived to be obligatory and formulaic. Accreditation processes can be used as an opportunity to advance education (curriculum, assessment and teaching) and its evaluation to improve healthcare.

The presenter will discuss the relationship between accreditation, education and program evaluation in health professions education, how accreditation recommendations can be used to design educational initiatives, and identify ways in which the multiple stakeholders in health professions faculty can collaborate to advance health professions education.



## #9T Round Table – Accreditation and Dimensions of Medical Education

9T4 (3071)

**Date of Session:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Room L5, Level 1

### Globalization in Medical Education: Promoting Reflexivity in Educational Practice

#### AUTHOR(S):

- **Omar Selim, University of Toronto, Department of Surgery, Canada (Presenter)**
- Ebbe Thinggaard, Copenhagen Academy for Medical Education and Simulation (CAMES), Denmark
- Robert Paul, University of Toronto - Institute of Health Policy, Management and Evaluation, Canada
- Rabia Khan, University of Toronto - Wilson Centre for Health Professions Education, Canada
- Tina Martimianakis, University of Toronto - Wilson Centre for Health Professions Education, Canada

#### ABSTRACT

**Introduction:** The WHO has identified a global shortage in health human resources. To address this shortage, health care leaders and educators are working to attract foreign trained health professionals to minimize the HHR gap (s). As with any solution to a problem there can be unintended consequences - in this case, it can be conflicts that arise between core educational concepts dependent upon where health professionals are educated. This is especially true when simulation methodologies are used in teaching as many assumptions are embedded regarding culture, context and what knowledge is most legitimate. This use of simulation to support HHR needs raises a number of important questions. How are we managing the changing diversity that comes from an ever-globalized world? Are we equipping medical educators to deal with and to navigate the complexities of globalization and its effects on education? What is our socio-political and ethical responsibility when engaging in medical education work across diverse cultures and national boundaries? In this round table discussion, we will discuss these challenges can arise, manifest and be understood using the context of a common clinical learning case, the simulation of a lumbar puncture or appendectomy. Attendees will be asked to discuss or debate the competencies (technical and otherwise) necessary to evaluate the learner and reflect on the universality of these competencies. A sample curriculum may be provided to assist in this exercise.

We intend to engage attendees with these issues in order to help them better appreciate the consequences of their day-to-day practices, particularly when they participate in cross-cultural and with cross-national pedagogy. Attendees will also consider how curricular content can be inclusive of diversity.

## #9U Conference Workshop

### 9U (3331)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room L8, Level 1

### Where do I start? Devising questions, aims and objectives when writing systematic reviews in medical education. A BEME workshop

#### PRESENTER(S):

- Teresa Pawlikowska from (Royal College of Surgeons, Ireland)
- Sophie Park (University College London/Institute of Education)
- Elaine Alais Susanna Hill (University of Central Lancashire / Blackpool Victoria Hospital)
- Erica Smyth (Royal College of Surgeons, Ireland)

#### ABSTRACT

**Background:** Many health education systematic review reports are limited by a lack of clarity in stated goals or a mismatch between the actual aims of the work and the needs for synthesis in the field. As such issues are rarely related to the methodology or scope of the work itself, but merely planning, in this workshop, BEME will explore this vital stage of the review process for all potential authors of health education systematic review.

**Who Should Attend?** All those interested in writing any kind of systematic review and evidence synthesis in all fields of healthcare.

**Structure of Workshop:** Preliminary information will be sent to participants in advance to the workshop (video and other material). The workshop will start by a short introduction to the stages of the BEME review process, particularly when planning a review. Participants will review a sample of titles, backgrounds and conclusions from actual BEME reviews and identify potential areas of concern using a variety of tools, with a whole group debrief to identify key areas of focus when planning and how research questions were addressed in conclusions. Small groups will then work on a participant's concept a) to devise appropriate research questions b) to report conclusions based on initial questions, followed by a group discussion.

**Intended Outcomes:** To develop skills in:

- Devising specific aims for systematic review in healthcare, particularly considering those that give the best potential outcomes from the works
- Planning a coherent review from research question into the transference to practice.

**Level:** Introductory / for beginners

## #9X Conference Workshop

9X (3224)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 0.96-97, Level 0

### Integrating planetary health concepts into the educational curriculum

#### PRESENTER(S):

- Brett Duane, Trinity College Dublin, Ireland
- SanYuMay Tun, Imperial College, London, UK
- Richard Ayres, Peninsula Medical School, UK

#### ABSTRACT

**Background:** Public health focuses on the protection of health. Fundamental to this is a planet that sustains optimal health of all. System transformation in the living and working environment is required, based on recognition of the interdependency between planetary health and personal health. Health professionals are educated to advocate for health within their areas of expertise. The clinician has been quiet in this regard and there is an urgent need to raise awareness of this interdependency.

Organisational change is complex with action required in the international, national, regional and local area to influence change. Health professions need to work to influence national healthcare professional council agendas, develop models of sustainable clinical care (e.g. nephology, dentistry), work within their profession, develop peer to peer training and influence their own learning environment.

**Who Should Attend?** Public health educators Clinical teachers Clinical teaching fellows Curriculum developers Healthcare students

#### Structure of Workshop:

5 minutes: introduction and prior expertise

15 minutes: introduction to the concept of planetary health, its relationship to public health and the implications for health professions

15 minutes: interactive exercise relating planetary health to participants' own context, identifying learning needs

10 minutes: introduction to case studies where healthcare students have been taught about the bi-directional relationship between healthcare and the environment.

15 minutes: introduction to case studies including setting up national working groups, peer-to-peer learning, and how the healthcare curriculum was influenced both locally and nationally

30 minutes: whole group facilitated discussion on barriers and facilitators to achieving these aims

#### Intended Outcomes:

 Participants will:

- be introduced to the planetary health conceptual framework;
- relate this to their own context, identifying related learning needs for themselves/ their students;
- through critical appraisal of case examples, discuss how existing modules can be enhanced to include the core concepts of planetary health;
- through discussion of case examples, explore the role of health professions in influencing national and local changes to protect planetary health, and how this may be supported through education;
- develop strategies to lead/influence change within their institution

**Level:** No prior expertise required other than familiarity with the undergraduate learning environment

## #9Y Conference Workshop

### 9Y (672)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.17, Level 2

### Putting threshold concepts into practice in health professions education: changing the way we teach, research and design curricula

#### PRESENTER(S):

- Hilary Neve, University of Plymouth Peninsula Medical School, UK
- Sarah Meek, University of Glasgow, School of Medicine, UK
- Virginia Randall, Uniformed Services University of the Health Sciences, USA
- Ellie Hothersall, School of Medicine, University of Dundee, UK
- Andy Wearn, University of Auckland, Faculty of Medical and Health Sciences, New Zealand

#### ABSTRACT

**Background:** Threshold Concepts (Meyer & Land, 2003) have been studied across multiple disciplines and there is growing interest within the health professions (Neve et al, 2015). Threshold concepts (TCs) are transformative and troublesome. Getting to grips with TCs can change the way we view education, but grasping their meaning and how they differ from core concepts can be difficult (Davies & Mangan 2005). Indeed TCs may themselves even be a threshold concept. This interactive workshop will be led by educators who have grappled with, researched and published work on TCs and who regularly use the ideas in practice. All are members of the international TCs in Health Network (CATCH). The workshop will build on Ray Land's keynote talk by deepening participants' understanding of the TC framework and exploring its relevance to research, teaching and curriculum development.

**Who Should Attend?** Anyone who loves pedagogic ideas and is intrigued to look at their education work from a new perspective.

**Structure of Workshop:** This interactive workshop will involve pairwork, brainstorming, small group activities and electronic voting. Following introductions and a brief revisit of TCs, participants will reflect on their own personal experiences of troublesome learning, the liminal space and threshold crossing. Supported by brief presentations about research methodologies and findings and TCs communities of practice, participants will analyse student language using the TC Framework and consider how noticing such language can be useful to teachers, learners and scholars. They will also participate in a form of Transactional Curriculum Inquiry (Cousin, 2009), exploring threshold concepts relevant to their own settings.

**Intended Outcomes:** By the end of the workshop, participants will:

- Have a deeper understanding of threshold concepts and relevant research findings.
- Be able to use the TC Framework to analyse learner language and understand the benefits of this
- Have identified ways to support learners through the liminal space and across thresholds
- Be aware of a range of approaches for identifying possible TCs and considered TCs relevant to their own setting
- Have identified ways to apply these ideas in their own practice
- Know where to find more information or support

**Level:** Suitable for any level

## #9Z Conference Workshop

9Z (553)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.44, Level 2

### How to create a Quality Culture - not a Quality Straightjacket

#### PRESENTER(S):

- Renee Stalmeijer, Maastricht University - School of Health Professions Education, The Netherlands
- Jill Whittingham, Maastricht University - School of Health Professions Education, The Netherlands
- Guy Bendermacher, Maastricht University - School of Health Professions Education, The Netherlands
- Pia Strand, Faculty of Medicine, Centre for Teaching and Learning, Sweden
- Diana Dolmans, Maastricht University - School of Health Professions Education, The Netherlands

#### ABSTRACT

**Background:** Health professions education programs are tasked with designing curricula to effectively and efficiently equip their graduates with the required competences and life-long learning skills needed for today's fast-paced, knowledge intensive society. Continuous monitoring and improving of educational quality is essential to attain these goals. Quality assurance is multi-faceted and requires the engagement of various stakeholders and tailored evaluation procedures. Worldwide, institutions invest time and effort in building and maintaining systems of internal quality assurance; i.e., through student evaluations, educational expert committees and faculty development. However, the presence of systems and information does not naturally result in continuous improvement of educational quality. Quality assurance systems have been described as treading on a fine line between being experienced as "policing" faculty behaviour (putting too much emphasis on control and accountability) instead of stimulating faculty and administrators to continuously improve their education. The challenge therefore is to collaboratively achieve a quality culture in which all stakeholders experience ownership and meaningful involvement in continuous improvement of education.

**Who Should Attend?** Students with governing roles, Educators, Department managers, Educational Leaders, Administrators

**Structure of Workshop:** After a general introduction into the relevant concepts related to internal quality assurance and quality culture, the workshop provides the opportunity to share experiences, discuss different approaches that are used to engage academic staff and students to become an active part in the quality assurance process and long-term development of a quality culture. We will work with several, activating workshop techniques like case discussion, buzz groups, replying to (online) propositions, and group work.

**Intended Outcomes:** During the workshop, participants will start to collectively define building blocks necessary for creating an effective quality culture within their own organisation through addressing questions such as:

- What is the aim of quality assurance within our organisation - monitoring versus improving?
- Which quality assurance practices are currently in place? What are best practices?
- What do we mean when we say 'quality culture'?
- How can we stimulate a quality culture?

**Level:** Introductory/Intermediate



## #9AA Conference Workshop

### 9AA (1764)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.61, Level 2

### Case Based Blended Learning (CBBL) - a strategy to foster the transfer of declarative to procedural knowledge or more?

#### PRESENTER(S):

- Sebastian Ertl, Medical University Vienna, Austria
- Tamara Seitz, Dept. for Internal Medicine, General Hospital Vienna, Austria
- Monika Himmelbauer, Medical University Vienna, Austria
- Henriette Løffler-Stastka, Medical University Vienna, Austria

#### ABSTRACT

**Background:** The close connection of theory and practice is a common aim of Case Based Learning courses, as is the development and fostering of the transfer from declarative to procedural knowledge. This transfer-learning in medical education has been highly advocated in the 2010 Lancet report.

#### Who Should Attend?

Persons, who are interested in didactic considerations to foster international, multidisciplinary team work and new eLearning methods.

Teachers, researchers, and advanced students, who are interested in understanding the teaching and training of procedural knowledge and clinical practice.

**Structure of Workshop:** The aim of the first study is to show how procedural knowledge, measured as student's competence performing three procedural clinical reasoning skills could be improved by a case based blended curricular element, consisting of eLearning cases with interactive questioning format and clinical training seminars with standardized patients. The aim of the second paper is to show, how a case-based, e-learning system influences the learning effectiveness and grades among medical students at the medical university of Vienna. This study was designed to measure and quantify the potential of e-learning as a new teaching technique. The third paper reports the students' satisfaction and acceptance of the implemented case-based eLearning program in the fields of psychiatry, microbiology and laboratory medicine and orthopedic surgery pointing on the value of autonomous motivation and affective involvement fostering efficient learning styles. Fourth, the clinical case/standardized patients (SP) - based training seminars and the importance of the quality of the SP's roleplay and feedback are presented as one part of the didactic efficiency. Another important aim while fostering procedural knowledge is the development of metacognitive reflecting functioning in clinical practice. Possibilities of implementation are shown in the fifth paper. Last, an international comparison of case-based eLearning methods (Basel, Vienna), including the comparison of distant learning and blended learning (Vienna, London) is presented. In general, an insight into procedural skills training, its interdependence with learning surroundings and autonomous motivation, with a focus on international, multidisciplinary teamwork and new eLearning methods is given.

**Intended Outcomes:** Get insight into procedural skills training, its interdependence with learning surroundings and autonomous motivation.

**Level:** All

## #9BB Conference Workshop

### 9BB (2147)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.83, Level 2

### Experience based learning: helping patients co-participate actively with students and clinicians in workplace education

#### PRESENTER(S):

- Tim Dornan, Queen's University Belfast, UK
- Grainne Kearney, Queens University Belfast, UK
- Hannah Gillespie, Queens University Belfast, UK
- Helen Monaghan, Queens University Belfast, UK
- Richard Conn, Queens University Belfast, UK
- Deirdre Bennett, University College Cork, Ireland

#### ABSTRACT

**Background:** Medical education for the future, it has been proposed, should be 'patient-focused in purpose and democratic in organisation'. The 'staunchly individualistic hero-doctor' should no longer be the ideal(1). This workshop helps participants realise this vision. It presents a novel pedagogy that guides the workplace learning of students who are not yet licensed to practice. Experience Based Learning (ExBL) is the product of programmatic research, two systematic reviews of 291 articles reporting 'best evidence', and experiential evidence provided by two panels: clinician-educators from 17 countries in five continents; and a team of students, residents, and educators, members of which will facilitate this workshop. Students become doctors, according to ExBL, by co-participating in practice with patients and clinician-educators. 'Real patient learning' (RPL) and the identity and capability of a doctor result from students reflecting on interactions with patients. Conditions of support foster ExBL.

**Who Should Attend?** Clinician-educators who wish to optimise patients participation in medical students workplace learning and prepare students for patient-centred practice

#### Structure of Workshop:

- Faculty from 5 countries will interact with participants throughout the session, facilitating discussion and sharing insights
- After participants have introduced themselves, facilitators will explain ExBL and highlight ways clinicians can encourage patients to be active agents in students' learning
- Participants will work in small groups to analyse factors that help and hinder ExBL in their locality
- A snowball method will optimise interaction and sharing of perspectives between participants
- All stakeholders will contribute their perspectives to a plenary session

#### Intended Outcomes:

- Develop a practical understanding of ExBL including the following:
- The concept of supported participation in practice
- Ways of promoting patients' and students' co-participation
- Techniques to help students reflect on real patient experience
- An understanding of how identity and a broad range of capabilities result from clinical workplace learning

**Level:** Intermediate to advanced

**Reference:** (1) Hodges B., Foreword to Bleakley A, Bligh J, Browne J. Medical Education for the Future. 2011. Dordrecht: Springer.

## #9CC Conference Workshop

### 9CC (195)

**Date of Workshop:** Tuesday, 27 August 2019

**Time of Workshop:** 1600-1730

**Location of Workshop:** Room 2.95, Level 2

### Assessing Assessment. Best practice approaches in assessment from ASPIRE assessment award winners

#### PRESENTER(S):

- Debra Klamen, Southern Illinois University School of Medicine, USA
- Anna Cianciolo, Southern Illinois University School of Medicine, USA
- Heeyoung Han, Southern Illinois University School of Medicine, USA

#### ABSTRACT

**Background:** There are only 5 ASPIRE assessment award winners. Faculty from SIU Som, one of those 5, will discuss what is meant by assessment excellence and present its key ingredients. Participants will discuss challenges and innovations in effective practical assessment, and facilitators will present examples of from their own institution. Participants will gain an understanding of what is needed to excel in the area of assessment, including an understanding of the specific elements that need to be developed, and tips/suggestions for how those elements might be implemented. Tips for writing an effective ASPIRE application in the area of assessment will be given as well, if participants are interested. Depending on the size of the group of participants and the interests, we are prepared to focus on specific areas of interest with participants by dividing the group into smaller, more specific working groups.

**Who Should Attend?** Attendees from medical schools looking to improve their assessment processes at their schools. Schools looking to apply for an ASPIRE award in assessment as well.

#### Structure of Workshop:

- Introductions of speakers and topic, needs assessment of level of learners - 10 minutes
- Short presentations (powerpoint) of the 5 critical elements of an ASPIRE assessment award as an infrastructure to focus discussions - 5 minutes/topic x 5 topics = 25 minutes
- After each short presentation, large and/or small working groups will be broken out and asked to fill out worksheets and discuss them. Worksheets will consist of space to jot down thoughts at each prompt, then used to share participants thoughts and ideas. In addition there will be space for jotting down others good ideas as well as ones own reflection on program needs. Worksheet time - 10 minutes/topic X 5 topics = 50 minutes.
- Wrap-up - 5 minutes

**Intended Outcomes:** At completion of the workshop participants will be able to:

- 1) Appreciate the key ingredients of assessment in an institution exhibiting excellence
- 2) Identify challenges and best practices from their and other institutions
- 3) Understand what convincing evidence is needed for a successful ASPIRE application
- 4) Better prepare for the ASPIRE application writing process through improving assessment processes at their home institutions

**Level:** All levels welcome

## #9DD ePosters - Wellbeing

### 9DD01 (87)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Perceptions and Attitudes of Medical Students and Faculty Towards Internet and Facebook Addiction

#### AUTHOR(S):

- Devanuj Duara, SSR Medical College, Belle Rive, Mauritius (Presenter)
- Aishwarya Gaur, SSR Medical College, Mauritius
- Ishan Vijayvargiya, SSR Medical College, Mauritius
- Kamesh Waran, SSR Medical College, Mauritius
- Dr Namrata Chhabra, SSR Medical College, Mauritius

#### ABSTRACT

**Background:** Internet addiction is becoming an emerging psychological problem worldwide. Use of internet and social networking websites has gained substantial interest among medical students and academicians. Several studies have reported association of internet over usage with signs and symptoms of depression, anxiety, low self-esteem and procrastination. To assess the prevalence, perceptions and attitude of medical students and faculty towards Internet and Facebook addiction.

**Summary of Work:** A cross-sectional survey including 235 students of all study levels and 21 faculty members was carried out using online validated semi-structured questionnaire; focus group discussions and in-depth interviews. The addiction was based on the number of times subjects agreed with the stipulated signs of overuse in the Internet and Facebook addiction tests.

**Summary of Results:** Overall Internet addiction was detected among 44.4% students and 39.6% faculty members. The major symptoms of internet addiction identified were: spending more time on internet than even realized (26% students and 40% faculty); isolating from family or friends (17% students); becoming defensive about time spent online (10% students and 5% faculty); facing difficulty in completing tasks due to excess time spent online (17% students and 5% faculty) and euphoric feeling when involved with internet activities (16% students and 15% students). The study revealed considerable impact of Internet and Facebook overuse on the social life and mental health. The implications of internet addiction observed were: anxiety, irritation, sleep deprivation, social isolation, decreased productivity and time mismanagement. Despite realizing implications of over usage, 44.6% students and 65% of faculty had never tried to overcome Internet addiction. Majority of the students and faculty admitted that they used Facebook when they had nothing else to do. Majority of the students and faculty had never tried to cut down the time spent on Facebook.

**Discussion and Conclusions:** Medical students and faculty are at increased risk of Internet addiction. Strategies to develop awareness of Internet addiction and provision of cognitive behaviour therapy of those found with Internet addiction are needed at the institutional level to encourage a balanced relationship between Internet and social media use versus academics and social life especially amongst medical students.

**Take-home Messages:** Medical students and faculty are at increased risk of Internet addiction.

## #9DD ePosters - Wellbeing

### 9DD02 (825)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Training: an effective intervention to enhance physicians' confidence in dealing with their workplace violence after violence aggression

#### AUTHOR(S):

- Jeng-Cheng Wu, Taipei Medical University Hospital, Taiwan (Presenter)
- Fu-Li Chen, Fu Jen Catholic University, Taiwan

#### ABSTRACT

**Background:** Workplace violence (WPV) is a global issue to healthcare workers occupational safety and health. To eliminate the impact from WPV, healthcare workers' confidence in dealing with WPV was studied to effective buffer the negative outcome from both the violence aggression and the fear of that. We explored the enhancement on physicians' confidence in dealing with WPV after violence aggression by training intervention.

**Summary of Work:** A cross-sectional, self-administered questionnaire were distributed to 401 physicians in four hospitals in Taiwan. The measurements included five major constructs: demographic characteristics (age, gender, affiliated department), recent experience of WPV in the past 3 months, confidence in dealing with WPV, attendance at WPV training courses in the past 3 months and associated organizational factors (safety climate and organizational support). Total 189 physicians were adequately completed. 78 respondents experienced WPV recently were assigned as the 'Victim group'; 102 respondents without experience of WPV were assigned as the 'Non-victim group'. The association between recent attendance at training courses and physicians confidence in dealing their WPV was investigated after adjusting their demographic characteristics and organizational factors in the multiple liner regression model.

**Summary of Results:** The respondents mean age was 43.31 years and 74.3% were male. There is no significant difference of physicians confidence between victim and non-victim group. In the multiple liner regression model, physicians recent attendance at training courses is a significant predictor ( $\beta=0.579$ ,  $p=0.037$ ) to their confidence in dealing with WPV in the victim group (perceived organizational support was another significant predictor), but not significant in the non-victim group (physicians affiliated department and perceived safety climate were significant predictors).

**Discussion and Conclusions:** Attendance at training courses for dealing WPV is significantly promoting physicians' confidence in dealing WPV after adjustment for confounding factors in the victim group. Training strategies with interactive small group workshop is suggested, because it not only ameliorate physicians' interpersonal skill but also provide better support from trained, skilled colleagues and both protected them from the risk and related sequel of WPV.

**Take-home Messages:** Attendance at training courses for dealing WPV is an effective intervention to enhance physicians confidence in dealing their WPV after violence aggression, and rehabilitate victims from the negative consequence after events.



## #9DD ePosters - Wellbeing

### 9DD03 (900)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### What does Emergency Physicians' construction of their professional identities tell us about burnout and resilience?

#### AUTHOR(S):

- Nothando Nkambule, Chang Gung University, Chang Gung Medical Education Research Centre (CG-MERC), Taiwan (Presenter)
- Yu-Che Chang, Chang Gung Memorial Hospital, Linkou, Taiwan
- Lynn Monrouxe, Chang Gung Medical Education Research Center, Taiwan
- Hsu-Min Tseng, Chang Gung University, Taiwan
- Chung-Hsien Chaou, Chang Gang Memorial Hospital, Linkou, Taiwan
- Cheng-Ting Hsiao, Chang Gung Memorial Hospital, Chiayi, Taiwan

#### ABSTRACT

**Background:** The nature of emergency medicine (EM) environments puts emergency physicians (EPs) at high risk of poor well-being and burnout. This study aims to explore EPs' narratives of professional identities (PIs), analyzing them to understand more about EPs' burnout and resilience, providing invaluable insight into how EPs can be supported.

**Summary of Work:** Following an initial analysis of semi-structured interview study conducted on 25 EPs (6 residents, 19 attending), conveniently sampled across branches of a hospital group in Taiwan, we conducted secondary analysis. Using discourse analysis, two distinct thematic narratives were identified around burnout and resilience. Using redemption narratives EPs described how they moved from a burned-out to a resilient state.

**Summary of Results:** EPs self-identified as burned-out or resilient. The burned-out EPs narrated themselves as 'ruminators', 'control freaks' and 'unsung heroes'. The resilient EPs narrated themselves as 'eager beavers' dedicated to their jobs, 'pressure-endurers', 'delegators' and 'shape shifters'; withstanding uncertainties of the EM environment, delegating work to others and flexible to change.

**Discussion and Conclusions:** Redemption narratives allowed EPs to portray themselves and ascribe meaning to their experience differently in their burnout recounts compared to their resilient recounts. Redemption narratives revealed that EPs transitioning from a burned-out to resilient state were mainly portrayed as identity negotiators, negotiating between current professional identities, quintessential identities narratives and future identities. This allowed for construction of a positive identity of EPs as 'overcomers', 'consulters' and 'comrades', seeking help to overcome challenges and drawing strength from being part of the EM team. We identified potential benefits of different constructions of the self in buffering work-related stress and depersonalization. This study is unique in that it addresses burnout, resilience and PI in an extreme work environment, like the EM, with acute demands, high uncertainty and stress. Results can be generalized to similar specialties.

**Take-home Messages:** Professional identities are multifaceted. Drawing on how EPs recount their identities when narrating work experiences we can gain insight into how they construct work-related stress, how they narrate coping with their stress, and how we might support a resilient workforce.

## #9DD ePosters - Wellbeing

### 9DD04 (1254)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Cyberbullying among medical students: A study of medical students' experiences about this phenomenon

#### AUTHOR(S):

- Tipsuda Tangsriwong, Buddhachinaraj Hospital, Thailand (Presenter)
- Thipsumon Tangsiwong, Buddhachinaraj Hospital, Thailand

#### ABSTRACT

**Background:** Access to the internet has rapidly increased in recent year due to the developing of technology; however, these developments have generated user-induced risks, including cyberbullying, defined as aggression that is intentionally and repeatedly carried out in an electronic context where a power imbalance exists between the perpetrator and victim. To date, there have been few studies created in universities, higher education or working environments. Therefore, the objective of this study focuses on raising awareness of this continuing trend of cyberbullying among medical students.

**Summary of Work:** A qualitative cross-sectional study, using questionnaires was conducted in January 2019, to evaluate the technology habits, awareness of cyberbullying, and their experiences about this phenomenon among medical students.

**Summary of Results:** A total of 125 participants (45 men and 80 women), of which 29.6% were fourth-year, 37.6% were fifth-year, and 32.8% were sixth-year students. The students preferred to engage with social networking sites including Facebook (36.0%), Line (31.2%), Twitter (19.2%), and Instagram (13.6%), the results also showed that 90.4% of them spent more than two hours every day on social media. Two-thirds of the students could define the term cyberbullying, but the rest could not. This study revealed that 28% of students are involved in cyberbullying; with a 6.4% victimization rate, and a 0.8% perpetration rate, while the overlapping perpetration and victimization rate was 20.8%. No significant gender or time spent on social media was associated with increased cyberbullying experiences. The prevalence of bystanders was 80%; and witnessed the behaviors listed, such as sending mean or threatening messages (49.2%), fake statue (22.1%), and spreading lies and rumors (15.3%). The students were concerned about the results of cyberbullying as an impact on their psychological health and the violation of personal rights.

**Discussion and Conclusions:** There is a general agreement regarding the reduction of cyberbullying behavior in higher education. It would be interesting to understand the prevalence, the impact of it on mental health among medical students, and the motives should be further explored.

**Take-home Messages:** Anti-bullying programs are most effective when directed at specific students at risk.

## #9DD ePosters - Wellbeing

### 9DD05 (1425)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Workplace incivility, self-efficacy, and medical student burnout: A JD-R perspective

#### AUTHOR(S):

- Thripura Hariharan, Macquarie University, Australia (Presenter)
- Barbara Griffin, Macquarie University, Australia

#### ABSTRACT

**Background:** This study adopted the Job Demands-Resources (JD-R) model of burnout (Bakker & Demerouti, 2007; Demerouti et al., 2001) to test the extent to which workplace incivility (a demand) and self-efficacy (a resource) predicted burnout amongst medical students. We also sought to identify if two primary motivations to study medicine (i.e., high value for status and high value for service) moderated the influence of these predictors.

**Summary of Work:** Design: Cross-sectional analysis of data obtained from a broader longitudinal cohort study over five years. Method: Participants were 97 medical students. Values were assessed in the first year of medical school while burnout and incivility were assessed in the final (5th) year of study, with all variables measured with validated scales. Moderated regression analyses were conducted to assess the direct and moderated effects of these variables on burnout.

**Summary of Results:** The experience of workplace incivility was associated with higher burnout. Contrary to expectations, this relationship was stronger amongst medical students who placed a lower value on status. Value for service did not impact this relationship. As predicted, self-efficacy was associated with lower burnout. However, neither status nor service values affected this relationship.

**Discussion and Conclusions:** The findings of this study support the JD-R model, reiterating that both demands and resources affect burnout. Even though valuing medicine for its status appeared to diminish the impact of incivility on burnout, understanding the extent to which these effects remain the same as a medical student transitions into hospital-based practice is important. Incivility may even have the reverse effect in practicing doctors who value status, compared to its effect during the student period when there is no real 'status'.

**Take-home Messages:** Obtaining a clearer picture on the various workplace and person-specific factors that influence burnout across the medical career pathway can better inform interventions to address what is increasingly recognised as a serious problem globally.

## #9DD ePosters - Wellbeing

### 9DDo6 (1812)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### How students prepare for OSCE and how their stress points compare

#### AUTHOR(S):

- **Mika Laitinen, University of Helsinki, Finland (Presenter)**
- Teemu Masalin, University of Helsinki, Finland
- Maarit Raukola, University of Helsinki, Finland

#### ABSTRACT

**Background:** All medical students must pass an Objective Structured Clinical Examination (OSCE) before graduating at the University of Helsinki Faculty of Medicine. During the OSCE, candidates go through a series of stations in which they examine and treat standardized patients. In this work we studied how the students prepared for OSCE and if the preparation affects to the experienced stress during OSCE.

**Summary of Work:** The data were collected with a voluntary structured online questionnaire which students (n=73) answered anonymously during the OSCE day in November 2018. Students self-evaluated their stress levels during OSCE in Likert Scale. For preparing the OSCE, students had an open-ended question and five premade categories: 1) by reading national online medical database 'Terveystietti', 2) by reading acute care manual, 3) by reading course notes, 4) by practicing hands-on procedures and skills in the skills lab alone, and 5) by practicing hands-on procedures and skills in the skills lab together with fellow students.

**Summary of Results:** In generally students found the OSCE stressful (4,15 in Likert scale) even though most of them (97,3 %) prepared beforehand. The most common way to prepare was to read national medical database (83,6 %), acute care manual (60,3 %) or course notes (52,1%). Practicing hands-on skills was less popular, with 26 % practicing with fellow students and only 2,7% practicing alone. A minor group (5,5 %) prepared to OSCE by working as a trainee in local hospitals or health centers. The students who prepared only by reading had lower stress points (4,12) than those who read and practiced skills (4,37). Those who prepared for the OSCE only by working as a trainee had lowest stress points (3,25).

**Discussion and Conclusions:** Students prepare for the OSCE by reading and practicing, many preferring practicing with classmates. However, the preparation method itself does not seem to correlate directly to the experienced stress points. Interestingly, students who worked as a trainee had lower stress points.

**Take-home Messages:** It is important to create opportunities for students to practice and prepare for OSCE. The main challenge is to try to ease the stress during OSCE.

## #9DD ePosters - Wellbeing

9DD07 (2059)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Factors influencing Resilience Growth in Preclinical and Clinical Medical Students

#### AUTHOR(S):

- **Krittanont Wattanavaekin, Srinakharinwirot University, Thailand (Presenter)**
- Tanyamon Poomontienchai, Faculty of Medicine, Srinakharinwirot University, Thailand
- Bhumini Chotiwanadilok, Faculty of Medicine, Srinakharinwirot University, Thailand
- Yanin Tangjaroenpaisan, Faculty of Medicine, Srinakharinwirot University, Thailand
- Amarin Narkwichan, Department of Obstetrics and Gynaecology, Faculty of Medicine, Srinakharinwirot University, Thailand
- Chaiyapruk Kusumaphanyo, Department of Anaesthesiology, Faculty of Medicine, Srinakharinwirot University, Thailand

#### ABSTRACT

**Background:** Resiliency in medical students is a crucial key to their success in their continuance as a physician. Yet, many schools still lack the capability to cultivate student's resiliency. For curricular improvement, we examined various factors influences on medical students' resiliency.

**Summary of Work:** Students were chosen through snowball-sampling method, probing on high resilient characters among their classmates. They were then separated into two focus group discussions. A sample of 14 preclinical year and 14 clinical year medical students were asked to identify factors and strategies for enhancing resilience separately. Through a consensus thematic analysis, three researchers independently performed qualitative analysis on the audio records and field notes to identify themes. Comparison of each group's themes was then examined to identify any similarities and differences.

**Summary of Results:** Themes from preclinical year medical students' group suggested that resilience was built through external factors such as 'repeated exposure to challenges' or 'enhance by family/friends' support' and hence linked 'experience' and 'social environment' as the key to favorable resilience. However, clinical year medical students' group suggested 'Personal attitude', 'Mindset' and 'Self-expectation' as key to resilience.

**Discussion and Conclusions:** Some common and many distinct factors suggested as a major influence on medical students' resilience were identified. Preclinical year students valued external support and more participation in clinical settings. In contrast, clinical year students valued increased individualism and mindset in their resilience. As medical schools strive to enhance resilience and to diminish potential student burnouts, they should balance individually-tailored as well as system-wide programs to best meet the needs of their students and faculty. Giving diverse experiences and emphasizing on the role of advisors are favored more on preclinical year medical students. Meanwhile, self-reflection and further exploration into individual's need are more influential in clinical year medical students.

**Take-home Messages:** Resilience is valued differently by preclinical and clinical year medical students. Hence, to strive to enhance resilience, an individually-tailored approach must be considered.



## #9DD ePosters - Wellbeing

### 9DDo8 (2116)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### A longitudinal view of the Impacts of Hurricane Irma and displacement on the academic performance of medical students

#### AUTHOR(S):

- Colin Michie, American University of the Caribbean Medical School, Sint Maarten, Netherlands Antilles (Presenter)
- Julie Taylor, American University of the Caribbean Medical School, UK
- Rinker Scott, American University of the Caribbean Medical School, Sint Maarten, Netherlands Antilles
- Kamyar Jafari, American University of the Caribbean Medical School, Sint Maarten, Netherlands Antilles
- Kimberley Kirkland, American University of the Caribbean Medical School, USA
- Bill Behrns, American University of the Caribbean Medical School, USA

#### ABSTRACT

**Background:** In 2017, hurricane Irma severely damaged the island of Sint Maarten, including the campus of American University of the Caribbean School of Medicine (AUC). Students were initially evacuated to the USA. At the end of September, medical sciences courses recommenced in Preston, UK with new curriculum delivery, timetabling and assessment systems. Students and faculty experienced challenges in their temporary school and living environments. Students were taught in evenings and weekends by AUC faculty. Counselling, interventional and responsive psychological supports were provided in Chicago and Preston. Students returned to the campus in Sint Maarten over the following two semesters.

**Summary of Work:** Measures of student attrition, academic and health outcomes were compiled from semesters prior to and a year following the hurricane.

**Summary of Results:** No mortality, serious injuries or mental health disorders requiring hospitalization were recorded following the hurricane on campus (700 students, faculty and family) or the move to Preston (673 students). Comparisons with the September 2016 semester (with a school population of 759) showed small changes. Attrition initially increased (2 students to 5; 3 returned in later semesters); more courses were dropped (31 in comparison to 46); academic dismissals increased (3 students to 5). However, the numbers of students achieving grades of >87% rose (97 students to 118). Subsequent tracking of those who achieved high grades in Preston demonstrated a return to previous outcomes within 2 semesters of the hurricane. Those who dropped courses did not display significant differences to those who had dropped courses in 2016.

**Discussion and Conclusions:** Medical students manifested with mild levels of both impairment and enhancement in their performance in academic assessments after Hurricane Irma. These coping strategies did not persist.

**Take-home Messages:** Recognise variations among students in coping strategies following natural disasters. 2 Appraise this as a relatively short-lived phenomenon. 3 Employ and apply this information, both anticipated outcomes and timelines, when medical students are involved in a natural disaster.

## #9DD ePosters - Wellbeing

### 9DD09 (2330)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### Difference of nurse educator teaching efficacy in clinical education and educational role stress

#### AUTHOR(S):

- Sujin Shin, Ewha Womans University, Korea (Presenter)
- Youngmi Kang, Kyung Hee University, Korea
- Eunhee Hwang, Wonkwang University, Korea
- Jeonghyun Kim, Ewha Womans University, Korea

#### ABSTRACT

**Background:** Teaching efficacy of clinical nurse educators is an important factor that affects the quality of clinical nursing education. Nurse educators who have a high level of teaching efficacy may contribute to enhance nursing students and new graduate nurses' competency. The purpose of this study was to investigate the characteristics of nurse educators with high level of teaching efficacy and educational role stress.

**Summary of Work:** This study used a cross-sectional design. A convenient sample of 364 nurse educators was recruited from sixteen hospitals in South Korea. Self-reported questionnaires consisting of the teaching efficacy scale, the clinical educational competency scale and the potential work-related stressors survey were used to measure teaching efficacy, clinical educational competency and educational role stress. Data were analyzed using descriptive statistics, chi-squared test and analysis of variance with Tukey's post hoc comparison.

**Summary of Results:** Sixty nine participants were high level of teaching efficacy group, 153 were average teaching efficacy group, and 142 were low teaching efficacy group. The participants with a higher level of teaching efficacy were those who were older than 40 ( $\chi^2=29.382$ ,  $p<.001$ ), have received a doctoral degree or more ( $\chi^2=29.490$ ,  $p<.001$ ), have more than 10 years of clinical experience ( $\chi^2=17.392$ ,  $p=.002$ ), have received clinical education ( $\chi^2=13.551$ ,  $p=.001$ ), have completed preceptor education program ( $\chi^2=9.272$ ,  $p=.010$ ), and have completed continuing education related to clinical nursing education ( $\chi^2=6.393$ ,  $p=.041$ ). Significant differences in the subscale scores for clinical educational competency were found among the three groups; assessment and intervention ( $F=59.874$ ,  $p<.001$ ), communication ( $F=37.202$ ,  $p<.001$ ), critical thinking ( $F=53.522$ ,  $p<.001$ ), caring relationship ( $F=31.736$ ,  $p<.001$ ), patient education ( $F=59.678$ ,  $p<.001$ ), management ( $F=42.244$ ,  $p<.001$ ), leadership ( $F=47.137$ ,  $p<.001$ ), and knowledge integration capabilities ( $F=60.885$ ,  $p<.001$ ). However, there was no significant difference in educational role stress among the three groups.

**Discussion and Conclusions:** Based on the results, nurse educators with high level of teaching efficacy are more likely to continue their clinical teaching from programs that strengthen their clinical teaching competency. Therefore, it is recommended that nursing administrators focuses on enhancing clinical teaching competency.

**Take-home Messages:** To ensure a higher level of teaching efficacy, it is important to develop a competency-based nursing curriculum, which will ultimately lead to the development of a clinical teaching competency.

## #9DD ePosters - Wellbeing

### 9DD10 (3293)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer B, Level 2

### We should hearten our students to aim at the current WHO recommendations through the whole spectrum of physical activity

#### AUTHOR(S):

- David Hupin, University Hospital of Saint-Etienne, France (Presenter)
- Nathalie Barth, University of Saint-Etienne, France
- Amandine Baudot, University Hospital of Saint-Etienne, France
- Antoine Guyot, Faculty of Medicine, Saint-Etienne, France
- Kelig Noel, University Hospital of Saint-Etienne, France
- Frédéric Riche, University Hospital of Saint-Etienne, France

#### ABSTRACT

**Background:** Studies from Paffenbarger et al. in the 1980s have stimulated a significant interest in understanding the relationship between physical activity (PA) and influences on length of life of Harvard alumni. Since then, some researchers followed this 20th century visionary with new cohort studies, which have shown that physical inactivity at work or during leisure time is a major risk factor for morbidity and premature mortality. Transition to professional life is an important turning point in life of previously active people with sports activities at school. Indeed, preserving a minimal dose of PA might lead to significant health benefits. However, many aspects of these relationships are still poorly studied in youngsters, and especially the impact of associated sedentary behaviour (SB). A key question is the following: if one is inactive and have a SB during university studies, will one always have a sedentary and inactive lifestyle? If yes, what will this imply to one's health? If not, what is the eventual health benefits?

**Summary of Work:** The aim of this research was to describe self-reported PA and SB within a sample of medical students from faculty of medicine of Saint-Etienne, France, before designing a cohort study. We examined PA and SB for relations to other life-style characteristics. PA and SB of everyday life were assessed between April and June 2018 using the e-Adult Physical Activity Questionnaire (e-APAQ).

**Summary of Results:** Out of the 3000 medical students of Saint-Etienne University, the e-APAQ has been currently completed for 500 (17%) of them, aged 18 to 32.

Interestingly, being sedentary at university was associated with more SB outside of university; while on the contrary, being active at university (internship in hospital) was associated with more leisure PA outside of university.

**Discussion and Conclusions:** We propose to promote even a low intensity of PA, which corresponds in practice to advising students to get up regularly from the chair and walk a few minutes after a long sitting time, at the break or between two lessons.

**Take-home Messages:** We should hearten our students to aim at the current WHO recommendations!

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE01 (124)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Creating awareness of patient counselling in the clinical setting among medical students in Oman: a five-year study

#### AUTHOR(S):

- Buthaina Baqir, Sultan Qaboos University, Oman (Presenter)
- Ken Masters, Sultan Qaboos University, Oman

#### ABSTRACT

**Background:** Counselling skills are essential skills for a medical doctor. Until 2014, at SQU, CoMHS, medical students were taught few counselling skills on an ad hoc basis late in their clinical training. In 2014, a counselling sub-course, consisting primarily of small-group workshops, was designed for pre-clerkship students. The aim was to expose students to the principles of counselling so that 1) they may be open to receiving counselling from a counsellor, and 2) that they may be able to utilise the counselling skills that they have learnt to enable more effective medical practice. The course has been run five times (2014-2018). Aims: To assess students' perceptions of the value of the course, including the skills learnt and attitudes towards counselling.

**Summary of Work:** One Lecture, one 2-hour workshop, 12-14 students per workshop built into the respiratory rotation. Over the five-year period (2014-2018), a total of 442 students (70% female; 29% male; 1% not indicated) completed a three-question evaluation form, Likert Scale (strongly disagree to strongly agree). An additional question for further comments was included. Data were evaluated through MS-Excel.

**Summary of Results:** A total of 442 students (100% response rate) completed the evaluation. Of these, 409 (93%) answered Agree or Strongly Agree on finding the workshop valuable; 424 (96%) on learning new counselling skills, and 425 (96%) on the belief that they would use the counselling skills with their patients. Qualitative comments also strongly supported the need for these workshops and skills.

**Discussion and Conclusions:** Although doctors need counselling skills, and these skills should be taught in depth during their training, it is possible to create a short intervention immediately prior to their clinical training so that they have an awareness and appreciation of the need for these skills. Further research in the clinical years may be able to determine the long-term impact of such an intervention.

**Take-home Messages:** This five-year study has shown that medical students' exposure to counselling training in their pre-clinical years is received positively.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE02 (172)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### The Perspectives of Evidence-Based Health Care Teaching on Undergraduate Medical Education in Taiwan

This presentation has been moved to Session 8EE14





## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE03 (302)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Teaching Cardiac Auscultation using AusCue

#### AUTHOR(S):

- Jieying Lee, National University of Singapore, Singapore (Presenter)
- Jo-Hanan Lau, National University of Singapore, Singapore
- S Thameem Dheen, National University of Singapore, Singapore
- Boon Huat Bay, National University of Singapore, Singapore
- Ching-Chiuan Yen, National University of Singapore, Singapore
- Dinesh Kumar Srinivasan, National University of Singapore, Singapore

#### ABSTRACT

**Background:** Cardiac auscultation provides insights into the diagnosis of patients with various types of heart diseases. However, students have to be exposed with a variety of cardiac conditions in order to achieve competence in auscultation. Hence, we aim to design a more experiential learning experience specifically for students to practice cardiac auscultation skills, so as to overcome the limited availability and accessibility of patients with conditions and costly simulators.

**Summary of Work:** A collaborative group of industrial design students, medical students and teaching faculty were put together to iterate and design a learning model that is functionally accurate and content relevant. The design is focused on providing environment to learn as a group with or without an instructor, having tactile and visual landmarks to locate the auscultation areas, and greater accessibility of the model. The design process spanned over 11 weeks and the result of the effort is an interactive prototype named 'AusCue'.

**Summary of Results:** AusCue has interactive auscultation sites on a light weight plastic torso (that cost less than USD\$150) with anatomical landmarks for palpation. It is easy to set up and portable. When the stethoscope bell is placed within the correct area, the indicator on the stethoscope turns green and lights up red if it is incorrectly placed. Further, students can lift up the shirt to read the instructions on the auscultation areas. The model plays the heart sounds over a speaker, which is audible to the group and will encourage discussion between medical students and faculty. The initial feedback from medical students and faculty are positive and encouraging. More than 90% of the respondents who tried AusCue finds it easy to use.

**Discussion and Conclusions:** The features of this model include learning by doing, playing sounds through speakers to encourage discussion, and increased accessibility are potentially instructional design features for future simulators. Further studies and iterations could be done to improve the learning experience of cardiac auscultation training.

**Take-home Messages:** With increased accessibility to an interactive cardiac auscultation model, students will have more opportunities to learn experientially and apply their knowledge into clinical practice.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE04 (697)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### How to teach future doctors? Continuing development of teachers' pedagogic skills in relation to the learning outcomes

#### AUTHOR(S):

- Zsuzsanna Varga, University of Pécs Medical School, Department of Behavioural Sciences, Baranya, Hungary (Presenter)
- Zsuzsanna Póttó, University of Pécs Medical School, Department of Behavioural Sciences, Baranya, Hungary
- László Czopf, University of Pécs Medical School, 1st Department of Internal Medicine, Baranya, Hungary
- Zsuzsanna Füzesi, University of Pécs Medical School, Department of Behavioural Sciences, Baranya, Hungary

#### ABSTRACT

**Background:** The quality of medical education is a key factor in terms of the global changes in medical education and the fact that doctors have to teach tomorrow's doctors. To have a detailed view we aimed to examine the attitudes of lecturers and students towards the learning outcomes of the medical programme and the pedagogic skills acquired by lecturers.

**Summary of Work:** Data collection through self-reported questionnaire in online form in the four Hungarian higher education institutions offering medical education was carried out in November 2017. Altogether 1943 questionnaires (students: 1505, lecturers: 439) were processed and for data analysis crosstabs, Chi-squares, Anova tests, Gap analysis matrices were performed. Furthermore, in-depth interviews are in progress to complete our research.

**Summary of Results:** We used GAP matrices to represent the correspondences of the satisfaction and importance of factors of the learning outcomes and pedagogic skills. Out of the 25 learning outcomes respondents rated only one (the knowledge of historical overview of the medical disciplines) less important, than its satisfaction rate. In all other factors the respondents rated the factors very important, but they are not satisfied with their delivery. In terms of pedagogic skills we concluded that teachers have still rated professional knowledge as the most important factor as opposed to the students who would mostly prefer further development of teachers in organization of the learning and teaching process.

**Discussion and Conclusions:** The lack of concordance between perceptions of the learning outcomes and pedagogic skills among lecturers and students may have serious impact on professional development and teaching medical students and transformation of medical education.

**Take-home Messages:** There were perceptual differences in the opinions of lecturers and students regarding learning outcomes and pedagogic skills. The study resulted in the necessity (more from the side of the students) of transition and paradigm shift in medical education from profession to practice and patient oriented teaching methods.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE05 (2347)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Skill to Habit. There is a gap in clinical resuscitation training

#### AUTHOR(S):

- Yuh-Feng Lin, Taipei Medical University Shuang Ho Hospital, Taiwan (Presenter)
- Jiann Ruey Ong, Taipei Medical University Shuang Ho Hospital, Taiwan
- Sheau Wen Kan, Taipei Medical University Shuang Ho Hospital, Taiwan
- Hon-Ping Ma, Taipei Medical University Shuang Ho Hospital, Taiwan
- Pei Hsing Hsieh, Taipei Medical University Shuang Ho Hospital, Taiwan

#### ABSTRACT

**Background:** Advanced cardiovascular life support (ACLS) is a fundamental skill for emergency department (ED) staffs. They are qualified and licensed through regular ACLS course every two years. They are said to be competent during the resuscitation. Is that the truth ?

**Summary of Work:** 6 emergency physicians and 16 nurses were enrolled. They all have valid ACLS certification. Participants were asked to document their confidence of performance on resuscitation before the study. Then the participants performance on resuscitation are compared in 2 phases: 1. Simulation phase: Simulated ACLS megacode scenario in simulation lab. 2. Clinical phase: Videotaping the real resuscitation cases involving the participants in ED. The performance between two phases were compared by 1. Qualitative parameters: using standard ACLS megacode testing checklists; 2. Quantitative parameters: using chest compression fraction (CCF), frequency (f) and length (t) of interruptions on chest compression.

**Summary of Results:** All participants stated confidence in their performance before the study. Qualitative data such as score in checklist and objective judgement on the performance were comparable between two phases. However, quantitative data of CCF, f and t were far better in simulation lab than clinical practice.

**Discussion and Conclusions:** Resuscitation during cardiac arrest is time-critical, fast-changing, complex, and error-prone process. ED staffs are trained regularly to achieve consistency and competency in workplace. However, resuscitation quality varies widely between systems and locations, thus learning from a real situation instead of simulation or lecture is crucial. In this study, the participants showed confidence on their performance and their qualitative parameters on the checklist score are good in both phases of study. But objective perceptions tend to overestimate the real life performance. Acquired the skill not necessary equal to adapt the skill into the daily practice habit especially during a critical resuscitation process. Regular training emphasis on the algorithm and correctness of the resuscitation but not on the quantitative quality. The chest compression fraction, frequency and length of interruption on chest compression were significantly worse in the clinical practice.

**Take-home Messages:** There is a significant gap between trained clinical skill to daily practice habit during resuscitation. Measures and steps should be taken to improve this transformations.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE06 (2417)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Establishment of a Rural Pathology Teaching Museum

#### AUTHOR(S):

- Linda Ferrington, University of New South Wales, Australia (Presenter)
- Julianne Weatherley, University of New South Wales, Australia
- Srajan Singh, University of New South Wales, Australia
- Aiveen Bannan, University of New South Wales, Australia
- S. Lesley Forster, University of New South Wales, Australia

#### ABSTRACT

**Background:** Pathology teaching traditionally incorporates didactic lectures, tutorials, and practical classes studying microscopic specimens, frequently including virtual microscopy. Gross pathology pots via medical school museums have long been used to teach pathology, and learning in this environment is well received by students, affording enhanced learning capacity, possibly due to opportunities for small-group learning not afforded by web-based pathology teaching. At the University of New South Wales Rural Clinical School, Port Macquarie, provision of pathology specimens was under-developed and lacked information about the displayed specimens, resulting in under-use by students who therefore missed out on the valuable advantages of these specimens in their learning.

**Summary of Work:** We aimed to establish a rural pathology museum which involved the cataloguing and classification of specimens and design and production of materials to support them, for example posters incorporating high resolution images and clinical information about the specimens. We also aimed to introduce a blended learning approach by producing high quality film of the specimens, allowing us to incorporate technology and digital media to produce virtual tutorials alongside digitized imaging of the pathology specimens for further study.

**Summary of Results:** We created a searchable catalogue which students can use to support their learning. All specimens are supported by a template incorporating relevant images and clinical information, including appropriate clinical scenarios and relevant questions to stimulate learning. This enables us to fully integrate clinical teaching with pathology teaching. We have developed a novel procedure and modified equipment for filming the pathology specimens, resulting in the production of very high-quality images which will be distributed initially on the University network, but which we hope to make available for use in other institutions.

**Discussion and Conclusions:** These resources will create improved opportunities for students in regional locations where these pathology specimens are not readily available. Our next steps involve utilizing the pathology museum alongside our traditional teaching methods and evaluating this multidisciplinary approach by surveying students to evaluate their learning experiences.

**Take-home Messages:** This project will enhance the learning experience by integrating media and technology with more traditional learning and will allow students to learn this material in a flexible way which is engaging and supports multiple learning styles.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE07 (3096)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### The Clinical Care Improvement Training Program: Linking Healthcare Providers' Education to Patient Outcomes

#### AUTHOR(S):

- Shireen Suliman, Hamad Medical Corporation, Qatar (Presenter)
- Reham Hassan, Hamad Medical Corporation, Qatar
- Khawla Athamneh, Hamad Medical Corporation, Qatar
- Sikandar Aftab, Hamad Medical Corporation, Qatar
- Aisha Al Adab, Hamad Medical Corporation, Qatar
- Nawal Al-Tamimi, Hamad Medical Corporation, Qatar

#### ABSTRACT

**Background:** Sepsis is a life-threatening organ dysfunction caused by dysregulated host response to infection. It is estimated to affect more than 30 million patients with, potentially, five million deaths every year worldwide. Initiatives for early recognition, more timely management and prevention are required.

**Summary of Work:** The Clinical Care Improvement Training Program (CCITP) has been established as a formal curriculum with a purpose to strengthen knowledge and skills of Quality Improvement (QI) principles to health care providers across Hamad Medical Corporation (HMC), a large Joint Commission International accredited group of tertiary hospitals in the State of Qatar and the Primary Health Care Centres (PHCC). Running in two 5-months cycles a year, the program consists of five learning modules that are delivered in a blended format. In addition, participants from all aspects of medicine receive training by highly skilled faculty; work collaboratively in groups to apply their knowledge in designing and implementing QI projects.

**Summary of Results:** From 2016-2018 and as part of the corporate vision, 37 quality improvement initiatives targeting sepsis were conducted across HMC and PHCC in Qatar during cycles 9, 10 and 11. Those initiatives were not only clinical with primary focus on the acute care of sepsis, but were also on the prevention at both patient and community level. This was reflected on the Qatar National Patient Safety Collaborative data report released in November 2018; reduction in sepsis mortality to less than 3%, 74% compliance with Rapid Response Team or equivalent alerts that were appropriately escalated, increase in percent compliance with the complete Sepsis Six Care Bundle to 47%, 76% of patients administered IV antibiotics within 60 minutes of time zero, and a 100% of vital signs documented in reporting facilities.

**Discussion and Conclusions:** Developing standardized continuous professional development initiatives under a common theme would result in improvement in patient care and outcome. CCITP stands as a successful Qatar Council for Healthcare Practitioners' accredited curriculum that develops the connection between education and patient care/outcome.

**Take-home Messages:** Educating healthcare providers in QI is the corner stone in improving patient care and outcome.



## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE08 (3210)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Teaching medical students about substance use disorder in Saudi Arabia

#### AUTHOR(S):

- Basma Alharthy, KAU, Saudi Arabia (Presenter)

#### ABSTRACT

**Background:** Patients presenting with substance use is common. Physicians need to be trained with skills and knowledge enable to identify substance use and help prevent further complications especially in comorbidities.

**Summary of Work:** To review the literature on Saudi medical students knowledge of substance use.

**Summary of Results:** Most of the literature found address various substance use among medical students. There is however no clear indication of how the curricula in medical schools in Saudi includes specific training or skills to address substance use through out the medical students training years. Evidence of developed curricula addressing substance misuse disorder can be found in countries like USA, Australia and the UK.

**Discussion and Conclusions:** There is growing evidence of the problem of substance use in the population. This indicates the importance of ensuring that future physicians have the right tools and skills to identify any relevant problems and know how to manage cases with substance use. There is no data reflecting how medical curricula have been designed to address this problem. International best practice can be utilised as a guide to help include training at different stages of the curricula to ensure that the students by the end of their training have the basic skills to identify substance use and misuse disorder and how to manage these cases including where best to refer the patients for the best treatment outcome.

**Take-home Messages:** Medical students need to develop skills to identify and manage substance use during their training. Introducing teaching hours specifically for training the students at various stages of their time in medical school and ensuring that the curricula covers the major current drugs abused is important to ensure future physicians are able to manage challenging cases with substance use. This can be achieved by utilising current international curricula and tailor according to the need a modified curricula.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE09 (3397)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Piloting 'ABC of the critically ill patient': experiences from Kigali, Rwanda

#### AUTHOR(S):

- Larissa Latif, NHS Greater Glasgow & Clyde, UK (Presenter)

#### ABSTRACT

**Background:** Newly-graduated junior doctors in Rwanda undertake two years of compulsory service in district hospitals, often as the only doctor in a remote and resource-poor area. They serve a large population who - due to time, cost or distance - may present in extremis. In their final undergraduate year, medical students at the University of Rwanda complete an Acute Care block, comprising didactic teaching in Anaesthesia, Critical Care and Emergency Medicine followed by one month clerkship i.e. shadowing. Despite this period of clinical exposure, specialty trainees describe their immediate postgraduate years as an extremely steep learning curve.

**Summary of Work:** A one-day course - 'ABC of the critically ill patient' - was delivered to final year medical undergraduates. This included introductory talks, practical workshops ('Airway and breathing', 'Circulation and fluid management'), and case-based discussions, where students talked through the management of simulated cases in small groups with a facilitator. The clinical scenarios were developed in conjunction with Rwandan Anaesthesia registrars to ensure relevance to the environment and available resources. Qualitative and quantitative feedback was collected using short answer questions and a 5-point Likert scale.

**Summary of Results:** All 21 students undergoing their acute care clerkship attended the course. Feedback received was extremely positive: on the Likert scale, the vast majority of responses either 'Agreed' or 'Strongly Agreed' with statements such as 'I learned something new' and 'I feel confident I can use the skills I learned today in practice'. Qualitative feedback indicated that students found the case-based discussions particularly useful and several students requested that further teaching sessions be delivered in the same format. One student wrote 'I wish to have many more days like this if possible'.

**Discussion and Conclusions:** Small group sessions with an emphasis on student interaction and application of knowledge to clinical scenarios were a popular addition to undergraduate education in this resource-poor setting. It is hoped that these learning approaches could 'bridge the gap' between didactic teaching and clinical service.

**Take-home Messages:** Undergraduate medical education in resource-poor settings tends to be delivered via traditional methods. The experiences described indicate an appetite among students for novel approaches.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE10 (3475)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Pediatric Emergency Medicine Certification short course for mid-level provider working in a pediatric emergency room of a public sector hospital of a developing country

#### AUTHOR(S):

- Huba Atiq, Childlife Foundation, Pakistan (Presenter)

#### ABSTRACT

**Background:** ChildLife Foundation (CLF) operates seven Pediatric Emergency Room (PER) in government hospitals treating half a million children every year. These managed by an in-training pediatrician and mid-level providers having different years of experiences and knowledge in pediatric medicine. Therefore, CLF developed a short six months certified course for their mid-level providers to improve their emergency room competency skills and translate their knowledge into practice. Here we are sharing our experience of developing a pediatric emergency medicine certificate (PEMC).

**Summary of Work:** The 18 weeks PEMC course started in August 2016. It is held once every week at the professional developmental center at Dow University of Health Sciences (DUHS). The course was based on a flipped classroom approach where students learned within group discussion, didactic session & get hands-on training from mock code. The classroom duration is 3.5 hours. The content of the course is more focused on the disease spectrum of CLF pediatric emergency rooms. The students received their pre-reading material and pretest one week before the session and at the end of the session, they have to submit their posttest and feedback. The classroom participation assessed on rubric checklist and feedback was given on the 5-point Likert scale. To qualify each session they need to achieve more than 75% of the result.

**Summary of Results:** 124 students got trained from PEMC course till to date. Each student had to pass 100 marks grand final assessment. It included 25% of 18 weeks classroom participation, 25% of grand test consisting of 50 multiple choice questions, 25% of bedside assessment and 25% 10 tasks oriented assessment of clinical skills (TOACS). On average, more than 70% of the candidates score more than 75% marks. The feedback received on a 5-point Likert scale and candidates are 85% of the time agreed that training is useful practically.

**Discussion and Conclusions:** PEMC have not only improved the knowledge and skills of our emergency providers but it also changed their behaviors towards managing critical care patient in the emergency room.

**Take-home Messages:** Developing countries PER should develop their own certified programs according to their disease spectrum and enhance the competencies of their healthcare providers and improved patient care.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

### 9EE11 (3072)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Evaluating the use of 360-videos in Medical Education: A Situational Awareness Case Study

#### AUTHOR(S):

- Aiknaath Jain, University of Leeds, UK (Presenter)
- Vania Dimitrova, University of Leeds, UK
- Alison Ledger, University of Leeds, UK

#### ABSTRACT

**Background:** Virtual reality could provide opportunities to revolutionise medical education. This work focuses on the 360-video - an innovative and affordable technology that offers viewers a full 360-degree field of vision, when using a Head Mounted Display (HMD). Although 360-degree videos are thought to be more engaging than the traditional 2D-video format, there is a paucity of evidence to recommend their use and no defined methodology to evaluate their effectiveness comparative to the 2D-video format.

Therefore, the aim of this study was to develop a methodology for evaluating 360-degree videos for informal learning of situational awareness by comparing it with the 2D-video format.

**Summary of Work:** The literature regarding evaluating virtual reality devices as a learning tool was reviewed. Three broad evaluation areas were identified: Cognitive Effects, Usability and Affective Aspects. Selected instruments were combined into an evaluation methodology and a small user trial involving 20 medical students was performed. The data was analysed using non-parametric statistical testing. The methodology was evaluated through a reflective journal and post-experiment semi-structured interviews with the participants.

**Summary of Results:** Participants who used the HMD scored better ( $p < 0.02$ ) in the cognitive test and perceived it to have a greater educational value than the 2D-video ( $p < 0.05$ ). However, participants found that the computer was easier to use ( $p < 0.02$ ), as well as significantly less effortful and frustrating ( $p < 0.02$ ). In-situ measuring devices corroborated these findings. The researcher found that taking observations was difficult and imprecise. Videoing participants using the devices should be considered. The participants did not report any technical or logistical problems. However, some experienced difficulty with the emotion and usability surveys. Alternative options for both were explored.

**Discussion and Conclusions:** The methodology detected significant differences between the formats in all the evaluation areas. Furthermore, the in-situ data collection tools provided valuable insights into user-experiences and should be reapplied.

**Take-home Messages:** The methodology was well-received by the researcher and by the participants. It is recommended that this study is repeated with a larger cohort and with different medical education scenarios (e.g. building rapport, breaking bad news, mental health awareness), to inform implementation decisions in medical education.

## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

9EE12 (1197)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Multimedia-Assisted Learning in Orthopaedic Clinical Skills

#### AUTHOR(S):

- Jirachat Sakuljiumjai, University of Phayao, Thailand (Presenter)

#### ABSTRACT

**Background:** Flipped Classroom, is a popular teaching model which was developed recent years, reverses the traditional learning environment by delivering instructional content outside the classroom. This study aimed to evaluate the effectiveness of the flipped classroom model for teaching orthopaedic clinical skills by comparing multimedia-assisted learning and traditional structured skills training.

**Summary of Work:** Twenty 5th year medical students were randomized into two groups: a structured skills training (SS) group and a multimedia-assisted (MA) group. The SS group was taught short arm cast procedures by orthopaedic staffs. The MA group watched a short arm cast video. After that, both groups attended a casting workshop and received feedback after the workshop. The short arm cast examination results and student satisfaction were evaluated.

**Summary of Results:** Students in both groups were able to perform short arm casting quite well. Mean scores were 82.9 and 87.65 for the SS group and the MA group, respectively. The t' test results showed no significant difference between the two groups (p value = 0.237). Student satisfaction scores were 83.6 and 84 for the SS group and the MA group, respectively. There was no significant difference between the two groups (p value = 0.695).

**Discussion and Conclusions:** Flipped classroom has been gaining popularity as a replacement for traditional lectures, but its use in clinical skills teaching is relatively new. We evaluated the efficacy of multimedia-assisted learning compared to structured skill training and found no significant differences between the two methods. Students using multimedia-assisted learning mentioned that a great benefit is that they were able to watch the video as many times as they wanted, thus helping them more fully absorb the steps involved in the procedure. Conclusion: Multimedia-assisted learning in clinical skills teaching is an effective model. It can help medical students to learn appropriate methods for performing procedures and allows them to review procedures as needed in their daily practice.

**Take-home Messages:** Multimedia-assisted learning in clinical skills teaching is effective and should be applied in other fields of medical education.





## #9EE ePosters - Teaching - Design, Delivery, Evaluation 2

**9EE13** (1350)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Foyer C, Level 2

### Video-assisted standardization teaching method as an effective strategy for young faculties to deliver nutrition consultation skills to PGY dietitian

#### AUTHOR(S):

- Hsu Chen Lin, Tri-Service General Hospital, Taipei, Taiwan (Presenter)
- Lin Chien Chan, Tri-Service General Hospital, Taipei, Taiwan

#### ABSTRACT

**Background:** The way of educating nutrition consultation skills to post graduate year (PGY) dietitians varies among instructor dietitians, leading to uneven qualities of teaching outcome and patient care. To provide a teaching guide for young faculties and improve their teaching skills, we established video-assisted standardization teaching method, which comprised of essential components of the educating consultation skills, to young faculties and evaluated the outcome of the program.

**Summary of Work:** We established a teaching evaluation scoring system for young faculties, and nutrition consultation skills scoring system for PGY dietitians, respectively. According to the evaluation scoring system, we made a video which demonstrated the essential components of the teaching skills to young faculties. Before and after the video demonstration, the young faculties taught nutrition consultation skills to PGY dietitians. Nutrition consultation to patients was performed by PGY dietitians after they received training from young faculties. Both of the teaching and consultation activities were evaluated by two senior instructors. Questionnaires regarding satisfaction, learning attitude, and self-efficacy of young faculties and PGY were obtained before and after the curriculum. Paired-t test was used to evaluate the outcome of the curriculum.

**Summary of Results:** There were 10 young faculties and 8 PGY dietitians recruited in the study. After video demonstration, the teaching skills, learning attitude, and self-efficacy were significantly improved in young faculties ( $p < 0.05$ ). Moreover, the PGY who received the education from young faculties undergone video demonstration significantly improved their nutrition consultation skills as well as the learning attitude and self-efficacy ( $p < 0.05$ ). Both young faculties and PGY dietitians highly satisfied the curriculum.

**Discussion and Conclusions:** It is no doubt that the nutrition consultation skills need to be well educated to PGY dietitians, which remains a great challenge for young faculties. Use of video-assisted demonstration of standard and essential components of the teaching skills could be a promising strategy for young faculties to train PGY dietitians, which further promotes the quality of patient care. Such video-assisted program provide flexibility which is easy to learn for dietitians who have heavy clinical workload.

**Take-home Messages:** Video-assisted demonstration of standard and essential components of the teaching nutrition consultation skills could be a promising strategy for young faculties.

## #9FF ePosters - Student Involvement in Pedagogy and Research

### 9FF01 (1013)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Medical students' preferences for working with people with dementia: a systematic review

#### AUTHOR(S):

- Molly Hebdict, Brighton and Sussex Medical School, UK (Presenter)
- Stephanie Daley, Brighton and Sussex Medical School, UK
- James Scott, Brighton and Sussex Medical School, UK
- Gina Sherlock, Brighton and Sussex Medical School, UK

#### ABSTRACT

**Background:** A current issue in workforce planning is ensuring future doctors are both competent and willing to work with older adults with complex needs. This includes Dementia care; which is widely recognised as a priority. Yet research suggests that working with older people is unattractive to undergraduate medical students. However how medical students view a career working with people with dementia is not well understood, in either related specialities (e.g. geriatric medicine) or generalist areas, and no systematic reviews have been conducted on this topic.

**Summary of Work:** The aim of this mixed methods systematic review is to explore the factors related to medical student preferences' for working with older people and people with dementia. The study protocol is registered on PROSPERO [CRD42018104647]. Searches were conducted on five databases (MEDLINE, PsycINFO, CINAHL, BNI, ERIC) in September 2018. Screening, data extraction and quality appraisal were conducted by two independent reviewers.

**Summary of Results:** 1,024 papers were screened (139 full texts) and 66 papers were included for a narrative synthesis. This poster will present the factors that have been found associated with student preferences for working with older people and specifically, people with dementia.

**Discussion and Conclusions:** Research looking at preferences associated with working with patients with dementia is limited; while there is a growing literature looking at interventions, knowledge and attitudes within dementia education, preferences for working with this patient group is less explored. Planned future work following this review, as part of a PhD study, is to be conducted to help conceptualise and build a framework for understanding preferences for working with people with dementia.

**Take-home Messages:** - Dementia care is a priority area for improvement, and understanding preferences for working with this patient group is imperative. - This study will synthesize and present the key factors that have been explored for why working with older people is unpopular, and; - Highlights that there is a paucity of research exploring how medical students view working with people with dementia, within related specialties and generally.

## #9FF ePosters - Student Involvement in Pedagogy and Research

### 9FF02 (1242)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Self-assessment of Working Life Skills of Medical Students in Finland

#### AUTHOR(S):

- Jarmo Jääskeläinen, University of Eastern Finland, School of Medicine, Finland (Presenter)
- Outi Kortekangas-Savolainen, University of Turku, Finland
- Juhani Jääskeläinen, University of Tampere, Finland
- Jussi Merenmies, University of Helsinki, Finland
- Petri Kulmala, University of Oulu, Finland

#### ABSTRACT

**Background:** Good working life skills are essential for graduating medical students. In Finland, these skills have been self-assessed by young doctors every five years. Finnish medical students get a right to guided professional practice at a hospital or primary care ward after four years and at primary care outpatient clinic after five years of study. However, working life skills during this practice have not been evaluated until now. We assumed, these data could be useful for curriculum development.

**Summary of Work:** We studied working life skills of Finnish medical students after four and five years of study when they had practiced during summer vacation. A link to an online questionnaire was sent by email to all year five and six medical students. The students were asked to evaluate (scale 0-5) their ability to interact with a patient, interview and examine a patient, search medical information, consult and refer to a specialist, enter a diagnosis, perform practical procedures, use an electronic health record program, produce a health record, and collaborate with other health care personnel. We used open questions to ask about the feedback from the patients and tutor/director, strengths, challenges, and suggestions to the medical school for gaining better working life skills.

**Summary of Results:** A total of 529 medical students (41%) responded to the questionnaire. The students felt they performed best at interaction with a patient (mean 4.15), collaboration with the personnel (4.10), and interviewing a patient (4.07). They assessed their performance weakest at examining a patient (3.73), finding a diagnosis (3.39), and performing practical procedures (3.33). There were more statistically significant differences between medical schools than between years of study. The students suggested focusing more on common problems met at primary care and teaching clinical examination and practical procedures in smaller groups.

**Discussion and Conclusions:** Finnish medical students are confident with their interactive and social skills but less confident with some key clinical skills like clinical examination and practical procedures. Self-assessment of working life skills of medical students is easy to perform and useful for curriculum development.

**Take-home Messages:** Self-assessment of working life skills by online questionnaire is easy to perform. It is useful for curriculum development.

## #9FF ePosters - Student Involvement in Pedagogy and Research

**9FF03** (1489)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Impact of participation in research projects by medical students on their academic performance

#### AUTHOR(S):

- Fahad Azam, Shifa College of Medicine, Shifa Tameer-e-Millat University, Pakistan (Presenter)
- Abida Shaheen, Shifa College of Medicine, Shifa Tameer-e-Millat University, Pakistan
- Nismat Javed, Shifa College of Medicine, Shifa Tameer-e-Millat University, Pakistan

#### ABSTRACT

**Background:** Medical doctors are expected to conduct various researches according to the specific needs of their respective specialties and for this purpose there is growing consensus on exposing medical students to research from early years of medical education. We conducted a study to evaluate the effect of conducting research by undergraduate medical students on their summative scores.

**Summary of Work:** A research program was initiated by the faculty of Shifa College of Medicine and third year medical students were invited to voluntarily participate in this research program. Most students came up with their own research ideas while some topics were provided by the faculty. A maximum of four students were placed in each group. Many students chose to get enrolled in more than one research groups. Twenty one percent of students participated in this program.

**Summary of Results:** Prior to enrollment in this program, only two students had previously conducted medical research. A total of twenty one students got enrolled in different research programs. Fifteen students were interested but were unable to initiate any research due to pressure of studies. Sixty four students did not show any interest in joining this voluntary program. The mean score of students who were enrolled in the research program was  $79.44 \pm 9.06$  in summative assessment in first module of third year and was significantly higher than the summative scores of students who did not show any interest in the research program. The p-value for t-test was significant (p-value=0.004).

**Discussion and Conclusions:** The results illustrate the fact that conducting research results in significant improvement in academic learning of the students as it stimulates learners to critically analyze theoretical knowledge. This thought process is crucial in processing complex concepts related to application of knowledge. Conducting basic and clinical medical research had a positive impact on the academic performance of the undergraduate medical students.

**Take-home Messages:** Conducting research is a healthy activity for medical students at an early stage and prepares them to apply class room knowledge practically in clinical setting.

## #9FF ePosters - Student Involvement in Pedagogy and Research

### 9FF04 (1519)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Study on the influence of undergraduate tutorial system on early scientific research ability cultivation of eight-year M.D. program students in China

#### AUTHOR(S):

- Chi Yuan, West China Hospital, Sichuan University, China (Presenter)
- Hongyu Jin, Department of Liver Surgery, Liver Transplantation Center, West China Hospital, Sichuan University, China
- Chuan Zuo, Department of Rheumatology and Immunology, West China Hospital, Sichuan University, China
- Rui Zeng, Department of Cardiovascular Diseases, West China Hospital, Sichuan University, China

#### ABSTRACT

**Background:** Students from Eight-year M.D. Program are strictly selected from high school via the College Entrance Examination of China. However, the early stage scientific research training is somewhat ignored in the curriculum. Undergraduate tutorial system aims to provide personalized guidance in scientific research ability and innovative thinking for undergraduate students by pairing teachers and students. Despite that the system has run in West China School of Medicine, Sichuan University for a decade, it is still in the trial and exploration period. Therefore, we launch this study to explore the influence of undergraduate tutorial system on early scientific research ability of eight-year M.D. program students and put forward practical and effective optimization schemes.

**Summary of Work:** From December 2017 to November 2018, a total of 70 cross-grade eight-year M.D. program students from West China School of Medicine, Sichuan University were selected as the survey samples. They were investigated by paper and online questionnaires, along with face-to-face interviews. A result analysis was conducted.

**Summary of Results:** The survey results showed that many students (51.43%, 36/70) had received guidance from tutors, most of which communicated with teachers face to face (80.33%, 30/36) or online (80.56%, 29/36). Some students (34.29%, 24/70) received no enlightenment in scientific research from undergraduate tutors. 26 students (37.14%, 26/70) were not satisfied with current undergraduate tutorial system, while 41 students (58.57%, 41/70) thought this system was very important for the early scientific research ability training of eight-year M.D. program students.

**Discussion and Conclusions:** This investigation uncovered existing problems in the cultivation of early scientific research ability in eight-year M.D. students under undergraduate tutorial system. For example, guidance provided by undergraduate tutors lacks scientific research training and differs greatly from what eight-year M.D. program students want to receive. Besides, effective supervision and management system to quantify the achievements and failures of this cultivation also requires improvement. Therefore, we put forward feasible solutions in distribution of tutors, supervision, feedback and guidance mode.

**Take-home Messages:** Eight-year M.D. program students in China have a high demand for early scientific research training, while the current undergraduate tutorial system is limited to help. It is urgent to put forward practical and effective optimization schemes.



## #9FF ePosters - Student Involvement in Pedagogy and Research

9FF05 (1642)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Student-led development of a checklist to measure usefulness of educational apps for just-in-time learning

#### AUTHOR(S):

- Grace Tylee, University of Otago, New Zealand (Presenter)
- Tehmina Gladman, University of Otago, New Zealand
- Sarah Rennie, University of Otago, New Zealand
- Steve Gallagher, University of Otago, New Zealand
- Rebecca Grainger, University of Otago, New Zealand

#### ABSTRACT

**Background:** Mobile applications (apps) have potential to support 'just-in-time learning' in clinical practice. While numerous measures are available to assess general quality of education apps; there is no instrument in the literature for evaluation of app usefulness for meeting medical students just-in-time learning needs. This study aimed to develop an evidence-based and student-led checklist for rating the usefulness of apps for just-in-time learning, and evaluate it using apps for learning clinical skills of history and examination.

**Summary of Work:** All terms and criteria for evaluation of quality of mobile apps for education were identified from the literature. Conceptually similar terms were grouped into unique items based on definitions from the literature. Medical students (years 2-4) participated in a student-led focus group using modified nominal group technique to determine items to include in a checklist of app usefulness for just-in-time learning.

**Summary of Results:** From the literature, 69 terms were identified. These terms were curated to a final set of 36 items. The focus group of ten students ranked their top 20 of the 36 items and were invited to contribute additional items. No items were added. After three rounds of student voting five items were discarded, 28 items kept and three items' importance remained uncertain.

**Discussion and Conclusions:** Discussion and voting on the literature-derived items of educational app quality confirmed the majority of the items were important to students when deciding if an app would be useful. Ongoing work is refining the checklist, testing it on clinical skills apps, and developing a feasible and acceptable method for use of the checklist to evaluate app usefulness to support learning.

**Take-home Messages:** While the majority of research measuring app quality has relied on experts in education and technology to develop appropriate methods for determining quality, the user voice is an important triangulation method. This work gives student users input in the development of methods for app evaluation. This is important, not only to increase the rigour of any evaluation method, but also to give the user ownership of the means to evaluate quality and usefulness of the technology they will be using.

## #9FF ePosters - Student Involvement in Pedagogy and Research

### 9FFo6 (2037)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Listening to the learner - self-perceived learning needs-based hepatology symposium for primary healthcare physicians

#### AUTHOR(S):

- Chee-Kiat Tan, Dept of Gastroenterology & Hepatology, Singapore General Hospital, Singapore (Presenter)
- Chang-Chuen Mark Cheah, Dept of Gastroenterology & Hepatology, Singapore General Hospital, Singapore
- Jin-Yang Terence Tan, Dept of Gastroenterology & Hepatology, Singapore General Hospital, Singapore
- Mien-Choo Ruth Lim, SingHealth Family Medicine, Singapore
- Hui-Min Joanne Quah, SingHealth Polyclinics, Singapore
- Pik-Eu Chang, Dept of Gastroenterology & Hepatology, Singapore General Hospital, Singapore

#### ABSTRACT

**Background:** Symposia topics are often decided by the organisers. A learning needs-based symposium is more learner-centric. We conducted such a symposium in hepatology for our primary healthcare physicians (PHPs).

**Summary of Work:** We did an online survey on different groups of PHP (general practitioners, general practitioner trainees and internal medicine trainees) for their self-perceived learning needs in hepatology. We then organised a symposium based on the overall top 3 needs. A 4th topic was added based on feedback from our department. We informed the PHPs of the 4 topics for the symposium and encouraged them to submit questions and to indicate what they hope to learn. Their submissions were disseminated to the respective speakers to help them plan their teaching content. We ensured active learning with a case-based discussion format and an audience response system. Feedback using a Likert scale was obtained from the attendees during the symposium.

**Summary of Results:** 268 PHPs responded with indication of their learning needs in order of importance. The PHPs submitted 39 questions pre-symposium. There were 81 attendees. The feedback (88.0% response rate) was as follows:

Feedback question Agree/Strongly agree

Has gained new knowledge/skills 96.5%

Able to apply new knowledge/skills 96.4%

Symposium was different from others 83.2%

Useful to submit questions pre-symposium 55.8%

Will attend another such learning needs-based symposium 93.3%

Will encourage peers to attend such a symposium 93.3%.

**Discussion and Conclusions:** Based on the feedback, a self-perceived learning needs-based symposium is effective in educating PHPs as more than 96% has gained new knowledge/skills that they can apply and more than 93% will attend again and bring their peers. The submission of questions pre-symposium appeared not very useful. We did not elucidate the reason(s) but a main reason could be the speakers not addressing in their session all the questions submitted. A solution to this shortcoming is to incorporate live question and answer sessions during the symposium.

**Take-home Messages:** A learning needs-based symposium although more laborious to organise is effective in educating PHPs and is welcomed by them.

## #9FF ePosters - Student Involvement in Pedagogy and Research

**9FF07** (2056)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Medical students develop online audiovisual patient education in cooperation with patients and communication students

#### AUTHOR(S):

- **Melanie Kalee, University Medical Center Utrecht, The Netherlands (Presenter)**
- Charlotte Eijkelboom, University Medical Center Utrecht, The Netherlands
- Jacqueline van Wijngaarden, University Medical Center Utrecht, The Netherlands
- Willemijn Schot, Utrecht University, The Netherlands
- Joost Frenkel, University Medical Center Utrecht, The Netherlands

#### ABSTRACT

**Background:** Due to the rise of the internet, medical information is more accessible than ever before. Having access to health information can make patients feel more empowered and confident in making decisions about their health and treatment. However, the reliability of online health information is difficult to assess, and the amount can be overwhelming. Physicians need new communication skills, to be able to educate and inform patients, both in- and outside the doctor's office.

**Summary of Work:** We developed a new educational course called CLIKCS: Co-creating onLine Information Knowledge Clips for Society. During the course medical students design, in pairs, an online knowledge clip in cooperation with a patient and a student Communication and Information Sciences (CIS). The aim of this project is to teach medical students to inform patients through written and audiovisual information and to collaborate with patients in making this information. This research explores which aspects of the course contribute to the development of the communication skills of medical students, needed to inform and educate patients.

**Summary of Results:** In February 2019 twelve 6th year medical students, six patients and three CIS students will be enrolled in this study. How and if medical students improve their communication skills during the course will be evaluated using the following methods: (1) observation of the meetings between the medical students, the patients, and the CIS students, (2) analysis of the storyboards and knowledge clips the students create during the course, and (3) semi-structured interviews with medical students. Full results will be presented and discussed in conference.

**Discussion and Conclusions:** This study aims to determine if and how designing knowledge clips in cooperation with a patient and CIS student improves the communication skills of medical students.

**Take-home Messages:** Doctors need to learn how to participate in this world of increasing online health information, by learning how to effectively inform patients outside of the doctor's office.

## #9FF ePosters - Student Involvement in Pedagogy and Research

9FFo8 (2192)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Medical Students' understanding of placebo and nocebo effects (PNEs). Implications for future practice

#### AUTHOR(S):

- Mark Arnold, University of Sydney School of Rural Health (Dubbo/Orange), Australia (Presenter)
- Damien Finniss, Northern Clinical School Pain Management & Research Institute, Australia
- Georgina Luscombe, University of Sydney School of Rural Health Orange Campus, Australia
- Ian Kerridge, Sydney Health Ethics, University of Sydney, Australia

#### ABSTRACT

**Background:** The Sydney Graduate Medical Program (SMP) accepts approximately 300 students yearly with appropriate undergraduate or postgraduate humanities or science entry qualifications from diverse ethnic and cultural backgrounds (20% International (IS), 80% Domestic (DS). Students must be aware of PNEs and their effect on patient-doctor interactions, as they affect patient physician engagement, trust, adherence to therapeutic regimens and outcomes of treatment

**Summary of Work:** A web-based questionnaire assessed the knowledge and attitudes of students to PNEs at the commencement of their two (clinically immersive) years of the SMP. Correlations and associations between responses and student demographics (age, gender, UG versus PG qualifications, cultural background and IS versus DS) were investigated statistically. Null hypotheses: There would be no differences in knowledge and values regarding PNEs based on age, gender, IS/DS, Caucasian (C)/Non-Caucasian (NC) ethnicity or entry qualification (UG/PG). HREC/IRB approval was granted.

**Summary of Results:** There were 35 respondents from the year cohort of 288. The following differences were statistically significant ( $p < 0.05$ ): Males and IS felt that placebo responses could differentiate organic from non-organic disease; UG recognised placebo administration in practice; DS designated placebo administration as deceptive; NCs felt that if a doctor told them a medication was a placebo they would think it 'useless'; IS felt that placebos work better in patients who are anxious or complain, prescribing a placebo is unscientific and did not identify anticipation responses.

**Discussion and Conclusions:** Students displayed highly normative and generally unsophisticated beliefs regarding PNEs potentially correlated with demographics. Students' identification of and reflection upon these beliefs may be necessary to optimise their appreciations their effect as actors when beginning clinical interactions.

**Take-home Messages:** Appreciating ones agency in clinical interactions is critical for the development of ones professional identity. An understanding of how ones behaviour may have intrinsically positive or negative (placebo or nocebo) context effects and how these affect patient outcomes is a key concept in the development of professional identity.

## #9FF ePosters - Student Involvement in Pedagogy and Research

9FF09 (2861)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Implementing Global Health Education in the Medical Curriculum. Challenges and opportunities of a student led initiative

**AUTHOR(S):**

- Behrouz Nezafat Maldonado, University of Liverpool, UK (Presenter)

**ABSTRACT**

**Background:** Medicine is a global profession, therefore future doctors need to be prepared to work in a globalized world. There is a lack of uniform guidelines for comprehensive global health education (GHE), for example the University of Liverpool MBChB program did not have an explicit component focused on global health.

**Summary of Work:** A review of the literature was performed and medical students from across all UK medical schools were contacted via the network Students for Global Health. Students were asked to complete a survey on how global health education was delivered in their schools. After this, student-led advocacy efforts resulted in a global health day being introduced in the curriculum. A 'Global Health Day' was the most suitable method and it was aimed at Year 5 students. Feedback from this day was collected to explore students' perception of global health.

**Summary of Results:** The methodology used to deliver GHE varied across schools, from one day of teaching to a 'Global Health Week'. The student society Medsin Liverpool led an advocacy effort to implement concrete global health education at the University of Liverpool. A total of 43 students attended the Global Health Day. On average the day was rated 7 out of 10. 80% of students considered that global health should be discussed earlier in the curriculum especially prior to electives or intercalation opportunities.

**Discussion and Conclusions:** Medical students have an interest in global health. Global health education should be included earlier in the curriculum. The time available for GHE within the medical curriculum is limited and from our experience medical school faculty can be reluctant to teaching global health at the expense of other subjects. Standardisation of GHE is necessary across UK medical schools. A strong student-led initiative can help deliver medical education that addresses the needs of medical students. Student-led organizations are a huge opportunity when advocating for changes in the medical curriculum.

**Take-home Messages:** Student-led advocacy efforts to improve the curriculum can be successful. Overall, global health teaching is regarded as important by medical students especially in preparation for their elective abroad.



## #9FF ePosters - Student Involvement in Pedagogy and Research

### 9FF10 (3249)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Encouraging Medical Student Involvement in Clinical Research: Using a Novel Online Platform to Pair Students with Clinicians

#### AUTHOR(S):

- Munaib Din, King's College London Medical School, UK (Presenter)
- Faisal Jamshaid, KCL Medical School, UK
- Natalia Jankowska, KCL Medical School, UK
- Thariq Farook, KCL, UK
- Asfandiyar Ghauri, KCL, UK
- Anne McKee, KCL, UK

#### ABSTRACT

**Background:** In recent years, the need to develop doctors with a firm foundation in research principles and processes has become apparent. In order to improve accessibility of medical students to clinical researchers, a solution was created to connect clinicians with live research projects to medical students keen for experience.

**Summary of Work:** A new society at a London medical school created a system to find available projects from clinicians in nearby trusts. These research projects were then advertised to medical students and applied for through an online platform: 'YoungAcademics'. Successful students were paired with their supervisor(s) to begin their projects. Small focus-group interviews were held in order to collect feedback about the positive aspects of the scheme as well as challenges faced. Gate keeper approval for the scheme was granted by the university's 'Curriculum Innovation Group'.

**Summary of Results:** Since our formation in October 2018, YoungAcademics has 150+ paid members (annual society memberships), 180+ written applications and 45+ student-clinician pairings. The platform has received widespread positive feedback in providing an innovative and streamlined route for students to get involved in academic research.

**Discussion and Conclusions:** YoungAcademics is a new initiative which has established the following: there is student demand for named authorship on academic publications and students are willing to apply and pay for the opportunity, even if a successful project application is not guaranteed. We argue that this has merit. It is an administrative tool that facilitates medical students to volunteer for research projects that interest them. We are currently developing YoungAcademics to provide 'research support articles' and a 'student support forum' to aid students with any projects they may be working on.

**Take-home Messages:** YoungAcademics is a platform that: offers numerous projects for students to select from; provides a fair and mediated project collaboration; offers faster project turnover for the clinician by selecting committed students. More work needs to be done to widen participation in academic medicine and to provide a better holistic academic experience.

## #9FF ePosters - Student Involvement in Pedagogy and Research

9FF11 (3387)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Crystal Lounge, Level 1

### Training activities created by students: the experience of the Brazilian Association of Academic Leagues of Family and Community Medicine (ALASF)

#### AUTHOR(S):

- Daniel Medina da Silva, Universidade Federal do Recôncavo da Bahia, Brazil (Presenter)
- Isadora Tristão, Universidade Federal do Rio Grande, Brazil
- Gabriel Krauss, Universidade São Francisco, Brazil
- Pedro Soares, Universidade Federal do Acre, Brazil

#### ABSTRACT

**Background:** Created in 2006, ALASF is a undergraduate student partner association of the Brazilian Society of Family and Community Medicine coordinated by 40 General and Regional Directors with currently more than 130 associated academic leagues through Brazil. Among the main objectives of ALASF, such as promoting the integration of students who have interest in FM, hold events for integration, and discuss important issues related to PHC, it also aims to stimulate training activities for the sharing and creation of new learning ways.

**Summary of Work:** Since 2017, ALASF has created the Medical Training Working Group with the objective to gather popular topics voted by members of associated Academic Leagues and create training activities. The main topics chosen were: Concepts of Primary Care and Clinical Skills; Quaternary Prevention; Interprofessional Education; The FM Support Center; Mental Health of health professionals and Mental Health in the cinematographic perspective.

**Summary of Results:** The activities were created in Training Work Group's discussions, and various resources (as articles, videos of digital platforms, academic texts, films and music) were used. The activities were sent twice a week to the e-mail of the members of the ALASF Board, in a self-explanatory document-text containing the links of the resources used. Each activity had 3 or more resources and the student could choose at least one that was their preference. To follow the activities, an Activity Protocol was created, where members were asked about: personal opinion about the topic, feelings about the activity, feedback of the resource, contributions for the training in Medicine, value of the theme and the usefulness of the chosen resource. At the end, the students were able to receive a certificate for engaging in this proposal.

**Discussion and Conclusions:** The activities reached more than 40 students from different regions of the country and continues to be a resource available to stimulate participants with new activities.

**Take-home Messages:** We consider that the ALASF educational activities are instruments that allow the students to construct creative learning methods, using existing technologies with the aim of developing new ways of learning.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG01 (2497)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Flipped classroom versus traditional lecture to achieve and improve knowledge retention in generation Y medical students

#### AUTHOR(S):

- Maleechat Sripipattanakul, Obstetrics and Gynecology Department, Khon Kaen Hospital, Thailand (Presenter)
- Thumwadee Tangsiriwatthana, Obstetrics and Gynecology Department, Khon Kaen Hospital, Thailand

#### ABSTRACT

**Background:** The character of generation Y medical students is life-long and active learning style, which traditional lecture is not conform to this learning style. Flipped classroom is an instructional strategy that reverses the traditional learning activities by conducting instructional content and can enhance active learning and critical thinking. Flipped classroom was introduced to used in medical student compared with traditional lecture to evaluate achievement and retention of knowledge.

**Summary of Work:** Thirty four of fourth year medical students who attended in pelvic floor dysfunction class were divided into two groups, traditional lecture and flipped classroom. Both groups received the online reading module and reference papers. Flipped classroom group received pre-class activity using study guide before class then participated in in-class activity using questions and case discussion follow the study guide. Pretest and posttest were performed before and after class to evaluate knowledge achievement. Multiple choice question (MCQ) and multiple essay question (MEQ) were performed at tenth week after class to evaluate retention of knowledge. Focus group was used to evaluate benefit and satisfaction in the flipped classroom.

**Summary of Results:** Flipped classroom groups had significant higher pretest and post test score than traditional lecture groups, mean (sd) 8.9 (1.6) vs 4.7 (1.2) and 10.6 (0.6) vs 8.4 (1.8)  $p < 0.001$ . Flipped classroom groups had significant higher score than traditional lecture groups in MCQ and MEQ score, mean (sd) 9.1(1.0) vs 7.7 (1.6) and 26.9 (3.2) vs 19.9 (4.6)  $p < 0.001$ . The student in flipped classroom satisfied in learning style and reported enhanced active learning and increase understanding than traditional lecture.

**Discussion and Conclusions:** Flipped classroom is a learning style for active generation Y student to enhance the achievement and improve knowledge retention. Pre-class and in-class activities following study guide were the key of success. Flipped classroom is more effective learning style to achieve and improve knowledge retention.

**Take-home Messages:** Flipped classroom should be promoted to enhance the active and life-long learning style.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG02 (3253)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Flipped classroom increased engagement amongst medical students but did not increase performance

#### AUTHOR(S):

- Paul-Alexandre Nordlund, Norwegian University of Science and Technology (NTNU), Norway (Presenter)
- Tobias S Slørdahl, Norwegian University of Science and Technology, Norway
- Susanne Skjervold Smeby, Norwegian University of Science and Technology, Norway
- Henriette Fagertun, Norwegian University of Science and Technology, Norway
- Børge Lillebo, Norwegian University of Science and Technology, Norway
- Anders Waagø, Norwegian University of Science and Technology, Norway

#### ABSTRACT

**Background:** In the flipped classroom model, students acquire knowledge outside of the classroom and the formal teaching time is devoted to student-driven discussions with a focus on active learning. In this study, we compared the effects of flipped classroom with case-based learning to lectures in two topics - vascular surgery and hematology.

**Summary of Work:** 61 third-year medical students enrolled in a 2x2 cross-over study. The students attended a total of two classes, where one was held as a lecture and the other as an active case-based learning session. They attended one class in each topic and read written material as preparation. The Student Self-Report of Engagement Measure and four Likert-type items assessed student engagement and perceptions. A multiple-choice question test was administered six weeks after to evaluate learning outcomes based on the teaching method.

**Summary of Results:** Average scores on the topic learned in a flipped classroom was marginally higher compared with the scores achieved in a topic taught in a lecture, but did not differ significantly (59.7% vs 57.1%,  $t(24) = 0.510$ ,  $p = 0.615$ ). Students reported higher levels of engagement in the flipped classroom (3.94 vs. 2.78,  $U = 310$ ,  $p < 0.001$ ) and were more satisfied with the flipped classroom (3.92 vs 3.53,  $U = 718$ ,  $p = 0.042$ ). Moreover, students reported increased feedback on knowledge when learning in a flipped classroom. 25 (40%) of all students enrolled in this study completed all parts of this study.

**Discussion and Conclusions:** In medical education, studies have shown both increased and equal student performance when comparing flipped classroom to lectures. The lack of differences in performance in this study could be explained by the decline in attendance, the small intervention or the choice of in-class activity. Flipped classroom incorporating active learning showed increased student engagement which is in line with previous studies. Students reported high levels of engagement during the case-based learning and increased feedback on their knowledge in the flipped classroom, but it did not lead to increased student performances.

**Take-home Messages:** Flipped classroom engages students and it stands as a valid alternative to the traditional lecture in medical education and promotes active learning and increase student engagement.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG03 (3109)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' perspectives on the design of flipped classroom in pre-clinical setting: a qualitative study

#### AUTHOR(S):

- Jo Yu Tsai, China Medical University, Taiwan (Presenter)
- Fremen Chihchen Chou, China Medical University, Taiwan
- Sheng Chang Yang, China Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** In recent years, technology has been increasingly used to assist teaching and to enrich students' learning experience. Innovative educational models, such as the flipped classroom (FC), could lead to a greater academic achievement in certain contexts; however, there is no clear consensus on the curriculum design of FC. This study aimed to explore an applicable FC design, and moreover, by using the FC environment, also to explore students' assertions about applying new educational model with technology to assist pre-clinical learning.

**Summary of Work:** Thirty-one medical students who had experienced both flipped learning and traditional curriculum participated in this research. Semi-structured interviews and qualitative content analysis with conventional approach were adopted to reveal students' assertions of the FC design and educational model of using technology to assist pre-clinical learning.

**Summary of Results:** For the FC design, there were three factors including content and learning objectives, learning load, and instructional design. The learning objectives should focus on applying knowledge and problem-solving activities in order to extend the knowledge connection between what have learned and future application. For the instructional design, providing structural materials with visual images, such as video and animation, can simplify the process of understanding. About students' learning loads, the difficulty level of learning content, students' competency, the length of online video and the balance between different courses are essential issues. Students' assertions regarding applying new educational model includes the need of matching the goal, learning content, technology and strategy, the need of effective engagement of learning activities, and the consideration of the transitional impact of new educational models between generations.

**Discussion and Conclusions:** Literature reveal that FC may lead to a better academic achievement than traditional teaching; however, the change of study behavior need to consider several important facets. Designing curriculum with a consistent logic, considering the transitional impact toward students' behavior between generations, and corresponding to students' expectation of learning are needed.

**Take-home Messages:** Adopting new educational model with technology needs thoughtful curriculum design and consideration of its impact to the whole curriculum blueprint as well as the learning culture.



## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG04 (930)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The flipped classroom is effective for medical students to improve fundusoscopic examination skills: A mixed methods study

#### AUTHOR(S):

- Kiyoshi Shikino, Chiba University Hospital, Japan (Presenter)
- Katsumi Nishiya, Kansai Medical University, Japan
- Shingo Suzuki, Chiba University Hospital, Japan
- Tomoko Tsukamoto, Chiba University Hospital, Japan
- Daniel Salcedo, Chiba University Hospital, Japan
- Masatomi Ikusaka, Chiba University Hospital, Japan

#### ABSTRACT

**Background:** Fundusoscopic examination is an essential skill for primary care physicians. However, it is challenging to provide training in fundoscopy by the traditional teaching methods. The flipped classroom approach has demonstrated to be effective in optimizing the use of live teaching time. The objective of this research is to investigate the effectiveness of the flipped classroom teaching methodology compared to traditional teaching method for training medical students in fundoscopy.

**Summary of Work:** A controlled trial was designed to compare the effects of the two practical guidance methods on student performance during the fundoscopic examination. The study population consisted of 75 medical students participating in a general medicine clerkship rotation. Participants were randomly assigned to either a flipped classroom group (intervention group: n=39) or a traditional teaching group (control group: n=36). The participants examined the fundus on a simulator (EYE®, Kyoto Kagaku Co) before and after the intervention and presented their findings (3 findings each before and after the training session). The quantitative outcome measures were the diagnostic accuracy of fundusoscopic findings and the duration of the examination procedure. The qualitative component consisted of a post-training questionnaire and semi-structured focused group interviews.

**Summary of Results:** Diagnostic accuracy was significantly higher using the flipped classroom teaching method (intervention group:  $42.7 \pm 0.45\%$  to  $66.0 \pm 0.49\%$ , control group:  $31.2 \pm 0.46\%$  to  $41.9 \pm 0.53\%$ ,  $F(1,223) = 24.2$ ,  $p < .001$ ). The duration of fundusoscopic examination was significantly shorter using the flipped classroom teaching method (intervention group:  $85.5 \pm 10.7$  s to  $65.9 \pm 21.5$  s, control group:  $85.6 \pm 10.6$  s to  $74.7 \pm 23.1$  s,  $F(1,223) = 6.72$ ,  $p = .01$ ). Twelve semi-structured focused group interviews were conducted (n=75). Students reported higher learning motivation with the flipped classroom approach.

**Discussion and Conclusions:** Teaching medical students fundusoscopic examination using the flipped classroom methodology leads to improved diagnostic accuracy while reducing total examination time.

**Take-home Messages:** The flipped classroom is an effective and efficient method for teaching the fundoscopic examination technique leading to improved competency outcomes in medical students.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG05 (237)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Application of Flip Learning Approach on The Respiratory Therapy

#### AUTHOR(S):

- Szu-I Yu, Tungs' Taichung MetroHarbor Hospital, Taichung, Taiwan (Presenter)
- Hueng-Chuen Fan, Tungs' Taichung MetroHarbor Hospital, Taichung, Taiwan
- Ya-Hui Hsu, Tungs' Taichung Metro Harbor Hospital, Taichung, Taiwan

#### ABSTRACT

**Background:** The purpose of this study was increased to quality of clinical work on the respiratory therapists (RT). The teaching and learning time of clinical and trainees trained in RT have been severely reduced. Therefore, how to make RT really learn, to save times and effective teach, Flip Learning (FL) teaching approach can stimulate RT motivation in learning, upgrading their knowledge and increased to quality of clinical work.

**Summary of Work:** This study was conducted at a teaching hospital in the middle of Taiwan. Subjects included 12 RT in the period from 1st Sep 2016 to 1st Sep 2017. The intervention was applying a FL approach, which included a web-film demonstrating how to set up a FL leaning course and Q & A. RT were required to take a post-course test and questionnaire.

**Summary of Results:** This study collected 12 after-course test results and questionnaires. All RT showed a high score (4.5/5) in the items of the questionnaires including "increased to quality of clinical work", and "communication with clinicians (4/5) in improving knowledge in the respiratory care", and a low score (3/5) in communication with patients/family.

**Discussion and Conclusions:** FL can encourage RT in self-learning, full of confidence, and increased to quality of clinical work, stimulate RT motivation in learning, upgrading their knowledge.

**Take-home Messages:** Flip Learning (FL) teaching approach can stimulate RT motivation in learning, upgrading their knowledge and increased to quality of clinical work.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG06 (3239)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### New module on teaching “Septic Shock” for medical students

#### AUTHOR(S):

- Chutima Cheranakhorn, Hatyai Medical Education Centre, Thailand (Presenter)
- Komsai Suwanno, Hatyai Medical Education Centre, Thailand
- Lucksamee Haura, Hatyai Medical Education Centre, Thailand

#### ABSTRACT

**Background:** Teaching septic shock in medical student is challenge. An international survey from junior doctors found problems on diagnosis and treatment of sepsis. One of most common barriers is lack of clinical skill and experience. A novel approach on teaching use combination of flipped classroom and enhance learning through ICU bedside teaching. This study objective was to explore the students knowledge gain and perspective on a new module.

**Summary of Work:** Forty-one of 5th-year medical students were divided in to 4 groups. The students were assigned to complete a study guide before attending the class. In class, students were taught about basic knowledge of shock and sepsis about 10 minutes then moved to apply the knowledge with real patient in ICU. Bedside teaching based on Cox’s 2-cycle model was applied, which focus on clinical reasoning and decision making on management septic shock. Pre-and post test were used to assess the knowledge. Students’ perspective were evaluated by using the five-point Likert scale questionnaires.

**Summary of Results:** According to knowledge, there was statistically significant improvement in post-test score ( $5.1 \pm 1.8$  vs  $8.2 \pm 1.1$ ,  $p < 0.001$ ). All of students rated strongly or very strongly agreement that new module was more effective and interactive than traditional lecture. Bedside teaching in ICU provided very useful experience of septic shock learning with a different points of view from ward or emergency department situation. The majority (88%) of student felt this class improved their own confidence.

**Discussion and Conclusions:** The new teaching approach revealed to be an effective module, which the unique learning experience is a bedside teaching in ICU. Learning environment in ICU provided the impression moment which enhanced the students maintained more attention. Furthermore, the students also learned the doctor-patient relationship from the attending during the bedside teaching which other techniques could not provide.

**Take-home Messages:** Unique experience of learning septic shock is teaching in real environment in ICU.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG07 (336)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning by Doing in a Supporting Environment: Curricular Effectiveness of a Medical Literature Reading Course in Early College Years

#### AUTHOR(S):

- Pai-Chuan Huang, College of Medicine, National Cheng Kung University, Taiwan (Presenter)
- Jer-Hao Chang, College of Medicine, National Cheng Kung University, Taiwan

#### ABSTRACT

**Background:** Being able to read scientific papers efficiently is fundamental to evidence-based practice (EBP), considering how little time a healthcare practitioner has in clinic, and how rapid the new findings are being published nowadays. Thus, a course was dedicatedly designed to introduce the logic and structure of scientific papers in medical field under a supporting environment for students in early college years. We examined the curricular effectiveness by comparing the self-perception on reading scientific papers before and after the course.

**Summary of Work:** Students filled out a survey, composed of 13 statements rated on a 10-point Likert scale, prior and after the “Occupational Therapy Literature Reading (OTLR)” course. A series of paired t-tests were used to compare students’ pre- and post-course self-perception on 5 curricular goals: confidence in searching literature, an understanding of papers’ elements and structure, ability in evaluating face validity, confidence in reading scientific papers efficiently, and feeling comfortable in reading papers. The schedule of the OTLR course was 50 minutes per session, 1 session per week, for 15 sessions. Each session included 20 minutes of lecture, 20 minutes of hands-on exercise, and 10 minutes of discussion.

**Summary of Results:** A total of 84 students enrolled the course across three academic years. Sixty seven students (67/84=80%) responded to all questions prior and after the course. Perception on 5 curricular goals were all statistically improved after completing the course (means of pre- vs. post-course: 3.8~5.3 vs. 6.5~8.2;  $p < .0001$ ). “An understanding of the elements and structure of a scientific paper” had the lowest score among the 5 domains prior to the course, and showed the greatest improvement in post-course evaluation (3.8 vs. 8.0).

**Discussion and Conclusions:** The results demonstrated that effectiveness of a curricular to improve literature reading competence in early college years could be achieved through a supporting environment with relatively limited hours distributed across a 15-week span.

**Take-home Messages:** Students would be much more prepared for upcoming EBP courses after a course such as the OTLR demonstrated here.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG08 (940)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### A case-based interactive lecture on pathological sonographic findings

#### AUTHOR(S):

- Sabine Schneidewind, Hannover Medical School, Germany (Presenter)
- Philip Bintaro, Hannover Medical School, Germany

#### ABSTRACT

**Background:** Curricular practical ultrasound classes become increasingly common in medical schools. These resource-intensive small group classes rely on healthy subjects performing ultrasound on each other and therefore often do not include any pathological findings. But it is the pathological findings that many young physicians are expected to recognize from early on in their residency which indicates the need to address these topics in undergraduate medical education.

**Summary of Work:** We conceived a lecture format addressing recognition and precise description of pathological sonographic findings. The topics of kidney cysts, liver cirrhosis as well as urinary obstruction were moulded into one case each with patient history and findings of physical examination, laboratory tests as well as abdominal ultrasound. 44 fifth-year undergraduate medical students attended this four-hour interactive case-based lecture session including 1. live demonstration of finding and measuring liver and kidneys, 2. describing and interpreting pathological findings together as well as 3. clinical decision making by integrating information from all available sources. Orientation and recognition of pathological findings were assessed via a short written test before and after the lecture.

**Summary of Results:** After the lecture, students scored significantly higher in correctly identifying 1. the liver (1 versus 0,52 out of one point), 2. the section level in a sagittal transhepatic image of the right kidney (0,9 versus 0,29 out of one point), the sonographic criteria 3. for cysts (3,26 versus 0,86 out of five points) as well as 4. for liver cirrhosis (2,5 versus 0,55 out of five points) after the lecture.

**Discussion and Conclusions:** Our results show that students' orientation and recognition regarding sonographic findings can be increased by an interactive, case-based class resembling every-day physician routines. During evaluation students emphasized that particularly the integration of pathophysiological knowledge into the process of clinical reasoning was helpful. We plan assessing long-term retention of acquired skills after three months.

**Take-home Messages:** Recognition of pathological findings can be taught effectively in a resource-sparing lecture format. Regularly and repeatedly including the pathophysiological background in clinical cases may contribute relevantly to students' understanding of the underlying disease.



## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG09 (3168)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The effect of two learning methods of classroom lecture-video cast and handout on learning achievement and satisfaction of nursing students

#### AUTHOR(S):

- **Mahmood Shamshiri, Ardabil University of Medical Sciences, Iran (Presenter)**
- Mohammad Ali Mohammadi, Ardabil University of Medical Sciences, Iran
- Solmaz Ershadifard, Ardabil University of Medical Sciences, Iran

#### ABSTRACT

**Background:** Background and Aim: Improving the effectiveness of learning in nursing education is very important. Several strategies are used to increase the learning effectiveness. The purpose of this study was to compare the effect of two methods of lecture-video cast and handout on learning and satisfaction of nursing students

**Summary of Work:** Methods: This quasi- experimental study was conducted in Ardabil University of Medical Sciences during the second semester of the academic year of 1395-96. The samples consisted of 54 nursing students of 2015 entrance. The sessions of the Health Assessment Course credit, which included 10 sessions, were randomly divided into two groups. In 5 sessions (group 1), after teaching by PowerPoint handouts were given to the students at the end of the sessions. In other 5 sessions (group 2), after teaching by PowerPoint, video casts of the lectures were provided to the students. Multiple Choice Questions were used to assess the learning and Students Satisfaction Form was used to evaluate the satisfaction of the students about the learning methods. The data were analyzed by descriptive statistics (mean and standard deviation) and analytical statistics (t-test, Wilcoxon and Mann-Whitney-U) by using SPSS 15.

**Summary of Results:** Results: Data analysis showed that The average score of learning achievement for handout significantly were higher than video cast sessions ( $P < 0.001$ ). Also, the mean score of students' satisfaction from handout and video cast were  $39.18 \pm 5.86$  and  $39.81 \pm 6.32$ , respectively and there was no statistically significant difference between them ( $P = 0.39$ ).

**Discussion and Conclusions:** Conclusion: Although, the lecture video casts do not improve the students theoretical knowledge as much as the handouts, it is recommended that classroom lecture video casts would be provided along with traditional and old learning strategies such as handouts and books.

**Take-home Messages:** This article has been extracted from my MSc student in school of nursing and midwifery.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG10 (650)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The efficacy of teaching methods for direct ophthalmoscopy comparing between video-based and traditional lecture-based learning in 4th year medical students: A prospective randomized controlled study

#### AUTHOR(S):

- **Nathaya Panyowatkul, Lampang Hospital, Thailand (Presenter)**
- Thanin Lokeskrawee, Lampang Hospital, Thailand
- Kittiya Sinthana, Lampang Hospital, Thailand

#### ABSTRACT

**Background:** To evaluate the pre- and post-test results of direct ophthalmoscopic teaching methods between video-based and lecture-based learning in 4th year medical students. The skill to use a direct ophthalmoscope is crucial in detecting increased intracranial pressure. There are various methods of teaching this skill such as traditional lecture-based, asynchronous e-learning (video, CD-ROM), synchronous e-learning (live online training), blended, and instructor-led learning. Currently, there is no consensus on the best method.

**Summary of Work:** A prospective randomized study was conducted in forty 4th year medical students. Two teaching methods were compared between lecture-based and video-based learning. The same teacher taught the same content to both groups. The teaching time for the lecture-based method was 30 minutes, and 15 minutes for the video-based learning. The OSCE was used to measure the results. To assign a balanced number of students to the two groups, we used blocked randomization with a block size of four. A stratified blocked randomization was used in the treatment allocation to equally distribute confounders including grade point average (GPA) and side of eyes. Generalized estimating equation (GEE) analysis was used instead of paired-t-test because two students withdrew after randomization. GEE adjusted all remaining confounding factors.

**Summary of Results:** Forty 4th year medical students were included. Two were excluded in video-based group owing to emergency on-call duty. Therefore, 38 students remained for analysis. The result showed that the video-based group had a trend for better post-test results. The mean pre-test and post-test in video-based group were  $34.4 \pm 6.1$  and  $63.9 \pm 9.2$  points and in lectured-based group were  $35.0 \pm 5.1$  and  $56.5 \pm 8.1$ . The p-value was 0.053.

**Discussion and Conclusions:** The video-based teaching method tended to get better post-test results. It was also more interesting, timesaving, and the students could repeat the study with self-learning. An insignificance of the p-value may result from inadequate power of the study. Increasing the study size may help to see the difference. This was the prospective randomized controlled study to evaluate the efficacy of different teaching methods.

**Take-home Messages:** A video-based teaching method tend to have better results than the traditional lectured-based method.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG11 (1482)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning paediatrics respiratory disease through clinically-based and customized micro-modules: an emphasis of both sound and vision

#### AUTHOR(S):

- Isabel Hwang, Faculty of Medicine, The Chinese University of Hong Kong, China (Presenter)
- Kate Chan (co-first author), Faculty of Medicine, The Chinese University of Hong Kong, China
- Albert Martin Li, Faculty of Medicine, The Chinese University of Hong Kong, China
- Yan Jin, Faculty of Medicine, The Chinese University of Hong Kong, China
- Chun Ting Au, Faculty of Medicine, The Chinese University of Hong Kong, China
- Sophie Yau, Faculty of Medicine, The Chinese University of Hong Kong, China

#### ABSTRACT

**Background:** In our six-year medical curriculum, students get exposure to paediatrics in penultimate year. The whole class is divided into four groups with groups of 55-60 students rotating through four clinical disciplines (paediatrics, obstetrics & gynaecology, family medicine and psychiatry) and spending 8 weeks in each. Large group size and limited time per rotation make it difficult to deliver effective teaching in one of the most important sub-specialties in paediatrics, namely respiratory medicine. Student-initiated learning and “flipped classroom” concept are recommended in modern days’ education. Micro-module learning aims to enhance students’ understanding to ensure better preparation for more fruitful discussions during bedside and class tutorials.

**Summary of Work:** Numerous customised and narrated e-learning micro-modules were created: (1) to allow students to familiarise themselves with the symptoms of stridor and its causes; (2) to instruct how reliable volume-time curve and flow-volume loop are ascertained via spirometry; “Bad examples” were included to emphasise common errors seen in paediatric subjects; (3) Guided case studies offer instant review on analytical skills. Upon usage, students were given an online survey to evaluate the micro-modules.

**Summary of Results:** Based on the current teaching schedule, two subgroups of a rotation (7-8 students per sub-group) attempted the micro-modules. 40% and 46.7% students agreed and strongly agreed that they enjoyed using the micro-modules respectively. 73.3% students agreed they would recommend the micro-modules to other classmates. Some students expressed that materials provided directly reflect the knowledge they need in the actual clinical environment. Open-ended comments informed us of a strong demand to expand similar micro-modules to other paediatric sub-specialties particularly on disease states that require more precise sound and visual analysis.

**Discussion and Conclusions:** Despite availability of online learning resources, in-house and customised micro-modules provided by the teaching hospital offers more confidence and certainty to students on the accuracy and usefulness of clinical skills and knowledge. This ongoing project allows us to refine our project direction to provide more audio and visual aids on respiratory and other symptoms in the near future.

**Take-home Messages:** When suitable cases with distinct symptoms are not readily available in wards, customised visual teaching aids provide reliable and confident source of information to students in clinical years.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG12 (3213)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### New technologies in teaching “Cell biology” for medical students enrolled in the program of basic education

#### AUTHOR(S):

- Galina Kukharchik, Almazov National Medical Research Centre, Russia (Presenter)
- Olga Kalinina, Almazov National Medical Research Centre, Russia
- Elena Parmon, FSBI - Almazov National Medical Research Centre, Russia
- Evgeny Shlyakhto, FSBI - Almazov National Medical Research Centre, Russia
- Pavel Dokshin, Almazov National Medical Research Centre, Russia
- Stanislava Prikhodko, Almazov National Medical Research Centre, Russia

#### ABSTRACT

**Background:** One of the key questions in the education of medical students is to gain in-depth professional knowledge in fundamental disciplines such as cell biology, cytology, molecular biology, biochemistry, biophysics, chemistry. Innovative teaching technologies are extremely important for improving the quality of medical education.

**Summary of Work:** Development of educational theory and strategy, didactic materials, study schedule and the introduction of innovative teaching technologies into practice for the “Cell” module, based on a methodically reasonable synthesis of fundamental disciplines.

**Summary of Results:** During the implementation, a problem-oriented “Cell” module was created. This module based on cellular biology integrates sections of fundamental disciplines that allow to deep discover the physical-chemical processes in the different cell compartment, the effect of enzyme kinetics on metabolic pathways, the membrane potential, the key ions of the cell signaling, the regulation of gene expression, and to find out the cell as a holistic biological complex. Program is conducted by researchers and leading experts in the field of cell biology, cell physiology, biochemistry, biophysics, molecular biology. A special role is given to the visual materials and the innovative educational technologies. Also, active learning involves role-playing games with specific didactic materials according to a specially developed scenario. For example, role-playing game, when each of the students has a special role in the presentation of a cellular damaging or protective agent, the goal is to save and restore the vital activity of the cell.

**Discussion and Conclusions:** These approaches increase students motivation, improve the education of the medical student, teach to work in a team to solve different tasks, teach to be ready for subsequent study of the functioning of organs and systems, the clinical problems and to perform research work. In the same time, there is a focus on stimulating the development of leadership qualities in students.

**Take-home Messages:** We present the developed technology for teaching medical students, a logical structure and a plan of which can be transferred to other modules to improve the quality of medical education.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG13 (550)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Comparative Study of Learning Outcomes Between in-Class Didactic and Self-Directed Learning in Sixth Year Medical Students During Pediatric Rotation at Phramongkutklao Hospital and College of Medicine

#### AUTHOR(S):

- Chanchai Traivaree, Phramongkutklao Hospital and College of Medicine, Thailand (Presenter)
- Chalinee Monsereenusorn, Phramongkutklao Hospital and College of Medicine, Thailand
- Piya Rujkijyanont, Phramongkutklao Hospital and College of Medicine, Thailand

#### ABSTRACT

**Background:** Traditional teaching method for medical students is in-class didactic. However, attending in class would prevent medical students from being with patients and exposing real clinical environment. Self-directed learning is an alternative method to help students to spend their time with patients and to self-research in specific topic that they are interested. However, it is still unclear on which learning method is superior to another.

**Summary of Work:** Objective To investigate the most effective teaching method in sixth (final) year medical students in order to strengthen their competency before becoming certified physicians. Methods Two-hundred and seven of the 6th year medical students participated in this study during their pediatric rotations. One-hundred and six students in 2016 class attended in-class didactic during pediatric rotation and 101 students in 2017 class were assigned to have self-directed learning during the rotation without lectures. Learning outcomes were measured using modified essay question (MEQ) examination and compared between 2 groups.

**Summary of Results:** Among 207 medical students participated in this study, students who attended in-class didactic (N=106) had significantly higher scores in modified essay question (MEQ) examination than those who had self-directed learning (SDL) (N=101) particularly in the areas of hematology/oncology ( $p=0.014$ ), dermatology ( $p<0.001$ ), cardiology ( $p=0.003$ ) and infectious disease ( $p=0.012$ ). However, students who had self-directed learning (SDL) could achieve significantly higher scores in modified essay question (MEQ) examination than those who attended in-class didactic in the areas of pulmonary ( $p<0.001$ ), neonatology ( $p<0.001$ ), gastroenterology ( $p<0.001$ ) and genetics ( $p<0.001$ ).

**Discussion and Conclusions:** The most suitable methods to deliver knowledge either in-class didactic or self-directed learning among medical students would entirely depend on specific subjects. Further exploration on the reasons for these significant differences is required in order to identify the best learning technique for medical students.

**Take-home Messages:** If each individual student should be taught differently, each subject should also deliver using different methods.



## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG14 (1003)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Impact of audio files on students' academic performance and scientific awareness

#### AUTHOR(S):

- **Nikhil Kumar, European University, Georgia (Presenter)**
- Yugdeep Singh Dudi, European University, Georgia
- Adarshpal Singh, European University, Georgia
- Maia Advadze, European University, Georgia
- Irine Sakhelashvili, European University, Georgia
- Natia Jojua, European University, Georgia

#### ABSTRACT

**Background:** complexity and volume of medical content make medical studies difficult. This regards mostly biomedical subjects at the beginning of the educational program. These fields of science are constantly updated with new research results. It is difficult for students to navigate in a huge amount of information within the textbooks. Combination of different forms of teaching facilitates achievement of learning outcomes. The aim of the survey was evaluation of the impact of audio files on the acquisition of knowledge of medical students. Audio files were provided to improve learning and deliver scientific information easily.

**Summary of Work:** 89 participants were first year students of the Medical Faculty. The study was conducted in March-July, 2018. After selection the participants signed informed consent. Two questionnaires were developed: for the assessment of students' needs and students' satisfaction. We prepared 3 different types of audio files (Biochemistry): a) short summary - 10 min; b) detailed explanation - 25 min; c) additional scientific data - 15 min.

**Summary of Results:** Preliminary findings:  $59 \pm 26$  participants supposed audio files to be helpful;  $76 \pm 5$  participants prefer to have audio lectures in the library, among them  $60 \pm 18$  participants requested audio files for the topics beyond the syllabus. The preferable time was 25 minutes (44 participants). Final results: 60 participants assumed that audio files had a positive impact on their academic performance. 30 students indicated 10 minutes as the best duration for the audio lectures, while number of the students preferring 25 minutes files were decreased from 44 to 21. 62 participants liked files with scientific information, while 16 were not interested in it. Finally 84 students indicated that they wanted audio lectures in other subjects.

**Discussion and Conclusions:** According to our results most of the students found audio lectures useful in improvement academic performance. We suppose that audio files are accessible for delivering scientific information to the students.

**Take-home Messages:** 1. Short audio lectures have positive impact on students' achievements. 2. Audio files promote facilitation of scientific awareness in medical students. 3. Innovated teaching strategies promote achievement of learning outcomes.

## #9GG Posters - Flipped Classroom / Learning Resources

### 9GG15 (3100)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Flipping a Biochemistry Class within a Medical Curriculum: Impacts on Perception, Engagement and Attainment

#### AUTHOR(S):

- Hanaa Fatoum, Alfaisal University, Saudi Arabia (Presenter)
- MHD Amer Aldeiry, Alfaisal University, Saudi Arabia
- Sara Kayali, Alfaisal University, Saudi Arabia (Presenter)
- Hawazen Alahmad, Alfaisal University, Saudi Arabia
- Yahya Bawahab, Alfaisal University, Saudi Arabia
- Joud Enabi, Alfaisal University, Saudi Arabia

#### ABSTRACT

**Background:** The flipped classroom has recently gained popularity in higher education, which can be attributed to the various advantages it offers, ranging from increased student enthusiasm, encouraging but little has been written about its application in the middle east or in the biosciences. The aim of this study was to assess the feasibility, acceptability and impact of flipping biochemistry classes in comparison to the traditional didactic program.

**Summary of Work:** The study was conducted on first year medical students taking the biochemistry course at a University in Saudi Arabia (n=247). A series of short pre-recorded videos was created and used to replace traditional lectures for half of the course. The freed lecture time was replaced by problem solving and discussion sessions to encourage student engagement and participation in the learning process. To gather their evaluation, conception and attitude towards this learning approach, participants completed an online survey which was adapted and modified and then verified by two experts in the field. To study the effect of the learning approach on exam performance, the scores of the participants were compared in questions taught using flipped classroom versus traditional approach.

**Summary of Results:** Participants noted that although the effort needed for the course was similar regardless of the learning approach, the flipped method made it easier to get more engaged and motivated to study, in addition to a huge improvement towards a subject that's considered challenging as first years. Moreover, examination performance measured using single best answer multiple choice questions showed similar results between teaching methods. The participants did however express significantly better perception of the flipped classroom compared to the traditional approach

**Discussion and Conclusions:** Although achieving overall similar results regardless of the approach used by the instructor, the participants significantly favored the flipped classroom over traditional lectures. This study has demonstrated that the flipped classroom can be used in the teaching of the biosciences within a middle eastern setting, resulting in an improvement in student satisfaction, autonomy and engagement in the course materials.

**Take-home Messages:** Shifting the educational approach from passive to active through using the flipped classroom can impact the way learning is perceived and the attitude, engagement of students dramatically

## #9HH Posters - Problem-based learning/Team-based learning

### 9HH01 (72)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Impacts of Integrating Standardized Patients in Problem-based Learning Tutorial in Taiwan

#### AUTHOR(S):

- Ching-Chih Chang, National Yang-Ming University School of Medicine, Taiwan (Presenter)
- Jiing-Feng Lin, National Yang-Ming University School of Medicine, Taiwan
- Pei-Ning Wang, National Yang-Ming University School of Medicine, Taiwan
- Shuu-Jiun Wang, National Yang-Ming University School of Medicine, Taiwan
- Chen-Huan Chen, National Yang-Ming University School of Medicine, Taiwan
- Hui-Chun Huang, National Yang-Ming University School of Medicine, Taiwan

#### ABSTRACT

**Background:** Problem-based learning (PBL) has been widely adopted in medical education. The skepticism about PBL comes from lacking of interaction with a real patient since most PBL cases are paper cases. Using a standardized patient (SP) might solve this problem. Herein, we tested the impact of integration of SP in the PBL tutorial and evaluated the response and feedbacks from students, SPs and facilitators in such curricula.

**Summary of Work:** In 2017, a total of 313 students, 66 facilitators and 36 SPs in the National Yang-Ming University, Taipei, Taiwan were enrolled. The SPs presented the symptoms/signs of the cases at the beginning of the brainstorming then the students interviewed them to obtain the detail history. All students, facilitators and SPs were invited to complete the questionnaires before and after this program.

**Summary of Results:** Most SPs considered that both the 2nd year dental medical student and 3rd year medical students participated actively and were competent enough but students and facilitators considered that the 4th year medical students might be more prepared. Overall, the participated students admired the interaction with SP and only about one fifth of them felt that this design caused unnecessary pressure among the students and facilitators. They agreed that this program significantly inspired the student's learning motivation (pre- vs. post-course:  $4.1 \pm 0.7$  vs.  $4.3 \pm 0.7$ ,  $P < 0.001$ ), increased their confidence level in interviewing patients ( $4.0 \pm 0.8$  vs.  $4.2 \pm 0.7$ ,  $P < 0.001$ ) and encouraging critical thinking ( $4.0 \pm 0.7$  vs.  $4.2 \pm 0.7$ ,  $P < 0.001$ ).

**Discussion and Conclusions:** There were different viewpoints of integration of SP in the PBL tutorial from SPs, facilitators and students. We conclude that the integration of SPs in PBL tutorial can improve the authenticity of PBL case and inspire the learning motivation of students.

**Take-home Messages:** In this study, a majority of students enjoyed interacting with SP in the PBL tutorial and agreed that such an intervention enhanced the depth of discussion in PBL tutorial. More than 85% of students, SPs and facilitators agreed that this program is worthy of continuing in the future.

## #9HH Posters - Problem-based learning

### 9HH02 (2891)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Patient-centeredness of problem-based learning cases

#### AUTHOR(S):

- Scott Kinkade, University of Missouri, USA (Presenter)

#### ABSTRACT

**Background:** Medicine has changed from a physician-centric model to a patient-centered model of care. While patient-centeredness is an espoused virtue in the curriculum, there may be components of the curriculum (unintended, informal, or hidden) that do not reflect patient-centeredness. The purpose of this study was to assess the degree of patient-centeredness within the problem-based learning cases used in the curriculum.

**Summary of Work:** An entire cohort of PBL cases was analyzed using qualitative content analysis. A patient-centeredness theoretical framework proposed by Kraput (Kraput, Yeager, & Putnam, 2000) was adapted and applied. Patient-centeredness was categorized along two dimensions: sharing behaviors and caring behaviors. Sharing behaviors are typified by sharing information with the patient and shared decision making. Caring behaviors relate to knowing about the patient and providing treatment that is tailored to a patient's unique situation.

**Summary of Results:** A total of 62 PBL cases were analyzed. Patient-centeredness was coded along two axes: sharing and caring behaviors. The cases exemplify caring behaviors (knowing the patient and knowing about the patient) well. Sharing behaviors, such as shared decision making, were not well modeled in the cases. A coding schema illustrated with quotations from the cases is provided.

**Discussion and Conclusions:** This qualitative analysis of PBL cases demonstrates that the patients are described in ways that identify their uniqueness as people. This role-models to students that we are treating an individual. However, instances of the physicians knowing how a patient was experiencing a medical problem, which is a more advanced level of caring, were rare. The studied PBL cases are lacking in description of sharing information with patients, shared-decision making, and obtaining consent for procedures. Understandably, PBL cases are written to convey the essential medical information, so all details and conversations are not included. However, the example quotes show how easily a few sentences can enrich the patient-centeredness of patient cases.

**Take-home Messages:** Problem-based learning cases used at this medical school do not reflect patient-centered care as well as they could. A simple coding framework can be applied to curricular materials to analyze their patient-centeredness and simple details added to written patient cases can help model the patient-centered care we strive to role-model.

## #9HH Posters - Problem-based learning

### 9HH03 (1056)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Students' Perspective on Critical Incidents in the Base Group in Problem-based Learning

#### AUTHOR(S):

- Viktor Sharan, Orebro University, Sweden (Presenter)
- Marie Lidskog, Orebro University, Sweden

#### ABSTRACT

**Background:** Central to problem-based learning (PBL) is work in small groups where students actively engage in discussion on cases. A crucial aspect of the group's productivity is group dynamics. In all groups, events occur that adversely affect group dynamics and reduces the productivity. Previous studies show that frequency and impact of critical incidents increases along the course of medical school. In Sweden, PBL is a common educational approach in medical education. This study investigates critical incidents in base groups in a Swedish context.

**Summary of Work:** The purpose was to examine students' perception of frequency and severity of critical incidents in group work and to what extent the incidents occur along the medical education. A questionnaire was distributed to all students at one medical programme in Sweden. Totally 201 replies were received. The students were divided into four groups depending on which semester they attended. The analytical method used was the analysis of variance and post hoc Bonferroni.

**Summary of Results:** Lack of elaboration, lack of interaction and uneven participation were factors that students experienced most frequently. For the majority of the factors examined, a significant increase was observed between the semesters. Unevenly participation, difficult personalities, lack of motivation were the factors of the students experienced the greatest in terms of severity. No significant difference was seen between the semesters.

**Discussion and Conclusions:** The result of this study suggests that the number of critical incidents increases with increasing semesters. This can be explained by the students expecting more from the base group in the higher terms and therefore provides even minor incidents high score. The results also show which concrete situations are perceived as problematic. By knowing this information, it is possible to put in measures to stop this from happening. One way would be to educate students and supervisors and give them tools for managing the critical incidents.

**Take-home Messages:** Critical incidents can contribute to an inefficient base group. A reduction of critical incidents would lead to an improvement in the depth of the discussions and in the group's cohesion. These factors would directly increase the group's productivity.



## #9HH Posters - Problem-based learning

### 9HH04 (1856)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Students' Attitudes toward Implementation of Problem-based Learning: Do Attitudes Differ Depending on Students' Age, Sex and Grade Point Average?

#### AUTHOR(S):

- Roko Žaja, University of Zagreb, School of Medicine, Croatia (Presenter)
- Jasna Vuk, University of Arkansas for Medical Sciences, USA
- Milan Milošević mUniversity of Zagreb, School of Medicine, Croatia

#### ABSTRACT

**Background:** The introduction of problem-based learning (PBL), conducted on Occupational and Sports medicine (OSM) classes, was a part of the new approach to students' education in academic year 2018-2019. All students in the class were solving team problems based on previously assigned individual tasks by looking for articles they were obligated to read at home. After solving problems in small groups, students presented findings to the class.

**Summary of Work:** After finishing OSM classes, 126 final year students (83 females and 43 males) of School of Medicine, University of Zagreb were surveyed by specially designed questionnaire for the purposes of this research. There were 26 questions divided in 3 parts considering students attitudes toward efficiency of PBL (first part); toward own preparation and presentation (second part) and toward professors work and received instructions (third part). For each part, received data and calculated scores were processed by nonparametric statistical tests afterwards.

**Summary of Results:** Response rate was 80.8%. On the scale 1-5, participants grade point average (GPA) was  $4.1 \pm 0.5$ . The age was  $24.5 \pm 1.6$  years. PBL was considered as a valuable teaching method among 91.9% of participants with 85.6% of them who considered PBL applicable to the OSM classes. Regarding the parts of the questionnaire, no significant differences were found between males and females, except third part where females had significantly higher score compared to males: median [IQR]=8.0 [7.0-9.0] vs. 7.0 [5.0-9.0];  $P=0.034$ . Among all participants, no significant relationship was found between any of three partial scores of the questionnaire, respectively, with age or GPA.

**Discussion and Conclusions:** Since the PBL was implemented in the OSM classes for the first time, positive students attitudes have been encouraging to continue with this way of teaching. Though females had more positive attitude toward professors engagement, all participants, regardless of their GPA and age, have considered PBL as an efficient teaching method suitable for every medical student.

**Take-home Messages:** PBL has been well accepted and appropriate teaching method for the final year medical students that indicates an importance of critical thinking and making decisions according to requirements of their future work.

## #9HH Posters - Problem-based learning

### 9HH05 (1621)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Feedback in problem-based learning in Saudi Arabia: student perceptions

#### AUTHOR(S):

- **Abdulmohsen Alomair, The University of Sheffield, UK (Presenter)**
- Michelle Marshall, The University of Sheffield, UK
- Pirashanthie Vivekananda-Schmidt, The University of Sheffield, UK
- Deborah Murdoch-Eaton, The University of Sheffield, UK

#### ABSTRACT

**Background:** PBL focuses on the presentation of problems in small groups as a way to stimulate student learning. Even though feedback is central to educational processes currently there is a dearth of research investigating feedback processes within PBL settings in Saudi Arabian educational environments.

**Summary of Work:** The research question is 'How do different medical schools in Saudi Arabia experience the PBL feedback process?; specifically focusing on modes of feedback (i.e. written vs face to face), on sources (i.e. tutor vs peer) and levels of feedback experienced by students in Saudi Arabian medical schools. Twenty medical schools in Saudi Arabia were invited to complete an electronic survey if adopting problem-based learning in their curricula; and eleven responded positively.

**Summary of Results:** A total of 483 medical students responded; 96.5% of students receive feedback during PBL tutorials. Of these 48.5% receive it in both face-to-face and written forms, 46% face-to-face only and 3.7% only in written form. Respondents prefer face-to-face over written feedback (85% v 76%) and most receive feedback from both their tutor and peers (73.6%). With peer and tutor feedback, respondents received feedback that encompasses a number of aspects including what they are doing well, what they can do better and why this is important, and how to achieve this. With tutor feedback, 27.6% of the respondents reported they never or only rarely are told how to do better; with peer feedback this was reported by 35% of the respondents. With tutor feedback, 33% of the respondents never or only rarely are told why they need to do better and with peer feedback, 43.3% responded the same.

**Discussion and Conclusions:** Almost all students receive feedback in the Saudi medical schools that participated in this study. However, student experience is not always in line with good practice in feedback. These results will be further investigated through interviewing students and PBL tutors to identify how to improve current experience.

**Take-home Messages:** Effective feedback practice does not happen automatically but requires deliberate focused efforts including quality assurance as well as training and development for both students and tutors.

## #9HH Posters - Problem-based learning

### 9HH06 (494)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Problem-Based Learning in Pelvic mass Scenario

#### AUTHOR(S):

- Ladaporn Wongkunha, Buddhachinnaraj Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Problem-based learning (PBL) is intended to enable students to work in groups to learn a topic in the context of real issues. PBL allows basic science knowledge to be made applicable to students' learning needs by relating it to a clinical problem. Instead, knowledge is gained and understood in order to apply it to the clinical scenario and ultimately serve the future patient.

**Summary of Work:** Following the ethical approval from Institutional Review Committee of our institute, the study was conducted on 35 students from a batch of 60 students of the fourth-year medical students at Buddhachinnaraj Hospital, Phitsanulok, Thailand. The medical students had learned PBL in the title of pelvic mass in a woman at the obstetrics and gynecology department rotation. The study aims are an evaluation of the satisfaction to learn PBL. The three questionnaires included the self-evaluation of medical students, the medical student evaluate a teacher, and the teacher evaluates the medical students. The questionnaire scores included 2,4,6,8,10 which were mean the level of very less, less, moderate, good, excellent pleasure.

**Summary of Results:** The 35 of the fourth-year medical students were enrollment to learn PBL when they had rotated to the obstetrics and gynecology department. The three questionnaires included the self-evaluation of medical students, the medical students evaluate a teacher, and the teachers evaluate the medical students. The questionnaire score was 8/10 which means the good satisfaction of the learning issues. Most topics display a pleasure score of 8/10 in the self-evaluation of medical students. The medical students had a score of 6/10, moderate satisfaction for the application of basic science knowledge to PBL. The medical students had good satisfaction to the teachers with the level score of 8/10. The teachers had evaluated the medical students to be good satisfaction, 8/10 of the score level.

**Discussion and Conclusions:** The PBL is to help students become intrinsically motivated. Intrinsic motivation occurs when learners work on a task motivated by their interests, challenges, or sense of satisfaction.

**Take-home Messages:** Students are also more motivated when they believe that the outcome of learning is under their control.

## #9HH Posters - Problem-based learning

### 9HH07 (2371)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The challenges of introducing standardized patients in Problem-based learning curriculum

#### AUTHOR(S):

- Tsang-En Wang, Mackay Memorial Hospital, Taiwan (Presenter)
- Min-Shu Wang, Mackay Memorial Hospital, Taiwan
- Yat-Pang Chau, MacKay Medical College, Taiwan
- Yih-Jer Wu, MacKay Medical College, Taiwan
- Chien-Yuan Hung, Mackay Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Problem-based learning (PBL) is the major learning program in modern medical education. There is a tendency to move from text-based cases to video or web-based virtual patients. Some PBL course tried using standardized patients (SPs) as a problems representation. We introduced SPs in PBL two years ago. Here, we report our experience about the SPs in PBL curriculum.

**Summary of Work:** Our department of medicine is a six-year system. PBL is implemented in the 3rd-grade and 4th-grades. We usually used text-based cases for PBL. We introduced SPs to replace text-based patient in one of 4th-grade PBL case since 2017. The interaction between the SPs and the students are mainly on medical history, clinical symptoms, and laboratory tests, but do not involve the physical examinations. We get feedback after the course.

**Summary of Results:** In these two years of experience, tutors were easy to get into the activity. More than 90% of students liked the course and said learning became more interesting. However, they felt anxiety in unfamiliar clinical condition inquiry. Our SPs had been OSCE SPs and did not have difficulty to play patients in PBL. SPs felt the responses of those students were very enthusiastic, but students sometimes asked questions without clinically logical. As for the preparation of the case drama, it is more complex for the author and different to write text-based case. The writers also need to train SPs hard.

**Discussion and Conclusions:** SPs may promote more effective self-directed constructive learning than text-based or virtual-based cases. SPs may become the backbone of undergraduate medical education. Based on our limited experience, we found that incorporating SPs into the classroom is more effective for learning communication. The students, teachers, and SPs were quite satisfied with the course methods and wanted more similar courses. However, the preparation of SPs PBL is more complexity. The case writer needs to be trained. SPs also spend at least twice more than three hours to prepare and practice. So time and cost are quite high.

**Take-home Messages:** Compared with the traditional methods, PBL introduces SPs to have better learning benefits. The high costs are issues that must be overcome in the future.

## #9HH Posters - Problem-based learning

### 9HH08 (333)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Picture Archiving and Communication Systems incorporated PBL curriculum to improve understanding for musculoskeletal diseases teaching in China

#### AUTHOR(S):

- **Keng Chen, The Eighth Affiliated Hospital, Sun-Yat-Sen University, China (Presenter)**
- Fan Lian, Dept of Rheumatology & Clinical Immunology, the First Affiliated Hospital of Sun Yat-sen University, China
- Chunhai Li, Dept. of Orthopaedics, Sun Yat-sen Memorial Hospital, China
- Huiyong Shen, Dept. of Orthopaedics, the Eighth Affiliated Hospital of Sun Yat-sen University, China

#### ABSTRACT

**Background:** The traditional method of teaching musculoskeletal diseases with PBL is inadequate to transfer the spatial relation of musculoskeletal diseases with sporadic images. Picture Archiving and Communication Systems (PACS) is a platform providing dynamic access to images from multiple modalities (1). This study aims to evaluate how PACS incorporated PBL curriculum improves students' acquisition of knowledge and clinical skills.

**Summary of Work:** Interactive, dynamic radiological cases in PACS were offered to a series of year 5 medical undergraduate students in a problem-based learning curriculum. Multiple choice question (MCQ) tests, clinical skill performance and anonymous evaluation questionnaire for the course were completed before and after the course. Results were compared between users and non-users of PACS. Student's perceptions of the teaching method were evaluated using Likert scale-based items.

**Summary of Results:** There were no baseline differences in MCQ scores and clinical skill performance between the users of PACS and non-users. MCQ results after course were not associated with PACS teaching. Students using PACS certified better clinical skills and higher spatial imagination. PACS users rated their experiences very positively, with 92% of them expressed a wish for more radiology material involved in the future. The challenge of PACS teaching included teaching incentives and collaboration of teachers with radiological and nonradiological (medical and surgical) backgrounds.

**Discussion and Conclusions:** The present study is the first to integrate PACS to PBL curriculum in China, which showed a positive effect of PACS incorporated learning approach. In contrast, sporadic, single plain film images as supplementary tool imbedded in the courses were not actively related to the better outcome of student learning. The participant students using the incorporated learning PBL curriculum were much more satisfied with the learning experience and more confident about the elements they have learned. PACS incorporated curriculum demonstrated the value of interactive, dynamic radiological material on musculoskeletal diseases teaching. PACS helped to increase medical students' clinical competency and manage real patients.

**Take-home Messages:** PACS is a far better way for musculoskeletal diseases teaching than traditional methods. Teachers with radiological and nonradiological backgrounds should work together to develop the PACS incorporated PBL cases.



## #9HH Posters - Problem-based learning

### 9HH09 (2820)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Rabbit Holes and Case Based Learning: Dive In or Avoid?

#### AUTHOR(S):

- Simon Atkinson, University of Bristol, UK (Presenter)
- Zarabeth Newton, University of Cardiff, UK

#### ABSTRACT

**Background:** Cardiff and Bristol Universities have both used a Case Based Learning (CBL) approach to teach undergraduate medicine, and collaboratively developed case and training materials. In training facilitators attention was paid to the role of the facilitator in maintaining group focus towards the case learning objectives: the possibility of topic drift - going down a rabbit hole - worried both staff and students. This study explores whether rabbit holes outside the learning objectives should actually be a worry, and whether students and facilitators had in fact gained from these discussions.

**Summary of Work:** With ethical approval we developed a questionnaire to survey the experiences and opinions of facilitators and students. Our questions aimed to explore the topics of the rabbit holes which groups had encountered, as well as how long the group had spent on the topic. We asked how the rabbit hole had been created, who had driven its exploration and whether all group members had participated. We also asked respondents to rate the educational value of the rabbit hole, whether it had contributed to their learning on the case, or to their general education.

**Summary of Results:** Although rabbit holes were created by both students and staff, it was group facilitators who were more likely to develop and drive groups into rabbit holes. The nature of the holes was predominantly clinically related, and linked to the material of the case, although different facilitators with more diverse backgrounds were inclined to create rabbit holes with more tangential clinical links. Students and facilitators rated the educational value of rabbit holes differently, especially where the topic was less obviously clinically relevant.

**Discussion and Conclusions:** The diversity and richness of material revealed in the rabbit holes adds a novel depth and breadth to a medical degree. It could be argued that rabbit holes are an important part of the holistic development of clinicians, and that the use of non-expert, non-clinician facilitators provides a valuable opportunity to add new learning, as well as fostering the attitude of curiosity we would like to encourage in our students.

**Take-home Messages:** Rabbit holes can be valuable learning opportunities. Whether students appreciate that they are is variable.



## #9HH Posters - Problem-based learning

### 9HH10 (2580)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning outcome in Radiology after integrated TBL and interactive lectures for fourth year medical students

#### AUTHOR(S):

- Siriporn Jeamwongsa, Ratchaburi Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Radiology in clinical practice requires interpreting skill. The medical students who have no experience in clinical imaging presentation are usually anxiety about knowledge content. Our previous teaching-learning method consisted only of lecture in preparing the student for comprehensive knowledge transfer. However, the students had little chance to interact and poor communicate. The idea was to change teacher-learning method from lecture only to integrating some topics in TBL and interactive lecture formats, to improve student attention, participations and interpreting skill.

**Summary of Work:** Objective: to evaluate the result of integrated TBL and interactive lectures as teaching-learning methods for the fourth year medical students. Duration of study is 6 years (since 2014-2019), included 192 students. Each year contained 32 students which divided into 6 groups. Each group took a topic of TBL and interactive lectures with 1 week preparation time before presentation and classroom discussion. Students were challenged to self study and prepare the information from web-based for interactive presentation within 180 minutes time frame. Students were asked to evaluate this study method as compared to previous lecture-based learning method. Data collection included 6 years duration. Teachers evaluated the student in the area of knowledge outcome, communicating and interpreting skills, compared with previous scores of medical student in the last 6 years.

**Summary of Results:** We found that students gained not only knowledge, develop communication skills and participate in teacher-student interactions. This also improved the enthusiasm, problem solving and leadership skill of learners. Impressive results of the student presentations were more than expectation. There was also no recall of student after final examination for re-examination. In the past 6 years, average 12.5 percents of students were called for re-examination in each year. But after changing the learning methods were no recalled.

**Discussion and Conclusions:** The teaching methods by integrated TBL and interactive lectures can improve the learning outcome and higher problem solving and leadership skills of learners.

**Take-home Messages:** After followed outcomes since 2014-2019, in the time of disruptive technology, continuous learning from big data sources and included problem solving, communicating skills are important than only interpreting skill, which computer can do.

## #9HH Posters - Problem-based learning

### 9HH11 (2094)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Team-based learning in Inter-Professional Education (IPE) for Patient Safety Course

#### AUTHOR(S):

- Thitima Suntharasaj, Department of Obstetrics and Gynecology, Faculty of Medicine, Prince of Songkla University, Thailand (Presenter)
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- Pratyanan Thiangchanya, Faculty of Nursing, Prince of Songkla University, Thailand
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- Arnuparp Lekhakula, Department of Medicine, Faculty of Medicine, Prince of Songkla University, Thailand

#### ABSTRACT

**Background:** An “Inter-Professional Education for Patient Safety” was arranged for the 6th year medical students, the 4th year nursing students and the 5th year pharmaceutical students. Groups of 13-15 students and 3-4 faculty staff were set. The activities composed of a full-day workshop including team-based learning (TBL). The contents were based on the WHO Patient Safety Curriculum Guide, Thai Patient Safety Goals, and Rational Drug Use Handbook.

**Summary of Work:** Objective: To evaluate the student’s understanding and learning by TBL in the IPE for Patient Safety. Methods: The TBL was designed in 3 steps; the first one was a pre-class preparation, the second one was an individual readiness assurance testing (iRAT) and the third one was a team readiness assurance testing (tRAT) with the same questions. On the full-day workshop, a 90 minutes period was conducted. The test composed of 5 multiple choices questions (MCQs) and 10 situational judgement tests (SJTs). Two points were given for the correct answer of each MCQ. Each SJT had 5 choices for ranking from 1= least appropriate action to 5= most appropriate action and two points were given for the correct match with 1 or 5 ranking.

**Summary of Results:** A total twenty groups of 280 students (31.8% medical students, 39.3% nursing students and 28.9% pharmaceutical students) completed the test. The mean MCQ score in iRAT was statistical difference among the faculties (4.65, 4.69 and 3.62 for medical, pharmaceutical and nursing students, respectively). Moreover, nursing students showed the lowest mean SJT iRAT score (16.13, 16.86 and 13.80 for medical, pharmaceutical and nursing students, respectively). After group working, the mean tRAT scores were significantly higher compared with the mean iRAT scores in both MCQs and SJTs (6.70 vs 4.25 for MCQs and 20.30 vs 15.40 for SJTs, respectively).

**Discussion and Conclusions:** TBL is one of the teaching method that enhances students’ engagement and active learning especially in IPE. The process of TBL promotes self-directed learning, problem-solving, inter-personal and team work skills. Using SJTs can assess the individual and team decision making in various scenario that related to clinical practices.

**Take-home Messages:** TBL is the effective teaching method in IPE for patient safety course.

## #9HH Posters - Problem-based learning

### 9HH12 (1383)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Team-based Learning in physical examination skills, student perception and preference: a follow-up study

#### AUTHOR(S):

- Jiska Patiwaal, Amsterdam UMC, VUmc School of Medical Sciences, The Netherlands (Presenter)
- Natalia Bezakova, Amsterdam UMC, VUmc School of Medical Sciences, The Netherlands
- Franciska Koens, Amsterdam UMC, VUmc School of Medical Sciences, The Netherlands
- Hester Daelmans, Amsterdam UMC, VUmc School of Medical Sciences, The Netherlands

#### ABSTRACT

**Background:** A TBL teaching format (Burgess 2014), designed to actively engage students in the theoretical part of a physical examination training, was evaluated positively by students in a recent pilot study (Patiwaal AMEE 2018). Therefore the TBL format was extended and more TBL trainings were included. The aim of this follow-up study is to investigate student perception of the TBL format and of the traditional teaching format and their preference.

**Summary of Work:** From June to September 2018, medical students at VU University Medical Center School of Medical Sciences, Amsterdam, the Netherlands, attended seven physical examination trainings at the start of their Master's program. Three trainings in TBL format, the other four in traditional format. Students were asked to evaluate both formats in writing, answering open-ended questions and rating statements (2 items; using a 5-point Likert scale.) Analysis: The open answers were open coded and through iterative discussion among 4 members of the research team consensus was reached on themes. Data were collected and analysed until sufficiency was reached. The ratings on the statements were measured by frequency distribution.

**Summary of Results:** The feedback forms were filled out by 113 students. 107 forms (95%) could be analysed, 6 forms were filled out incorrectly and excluded. Emerging TBL format themes were: 'interaction', 'thinking for themselves', 'active participation'. 'Interaction' and 'active participation' were most frequently mentioned. These themes were mainly positively evaluated by students. Traditional format themes were: 'the teacher explaining', 'listening', 'posing questions', 'structure', 'tedious'. 'The teacher explaining' was most frequently mentioned. Students evaluate this theme both positively and negatively. 59 students (55 %) preferred the TBL format over the traditional format. 18 students (17 %) preferred the traditional format over the TBL format.

**Discussion and Conclusions:** The main TBL format themes 'interaction' and 'active participation' are positively evaluated by students. The main traditional format theme 'the teacher explaining' is evaluated both positively and negatively. Students reported a preference for the TBL format in the theoretical part of the physical examination training.

**Take-home Messages:** TBL principles stimulate interaction and active participation during physical examination trainings. Student perception is positive.

## #9II Posters - Teaching and Learning 1

9II01 (359)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### “Kampo-sommelier practice”: A trial for an active learning program in Kampo (Japanese traditional) medicine

#### AUTHOR(S):

- Makoto Arai, Department of Kampo Medicine, Tokai University School of Medicine, Japan (Presenter)
- Yoshinobu Nakada, Department of Kampo Medicine, Tokai University School of Medicine, Japan
- Kagemasa Kajiware, Division of Basic Molecular Science and Molecular Medicine, Tokai University School of Medicine, Japan
- Takaaki Kinoue, Department of Community Health, Tokai University School of Medicine, Japan
- Shun-ichiro Izumi, Division of Postgraduate Education, Tokai University School of Medicine, Japan

#### ABSTRACT

**Background:** Kampo terminology is newly described in the coming ICD-11, and Kampo medicine is now globally recognized. However, Japanese medical schools provide only limited classes in Kampo education. Considering that each Kampo formula consists of several kinds of crude drugs (medicinal plants), it is important for medical students to become familiar with crude materials to motivate them to learn Kampo medicine. Therefore, this study aimed to assess the effectiveness of an active learning program on crude drugs proposed for such limited undergraduate environments.

**Summary of Work:** Fourth-year Tokai University School of Medicine students as of 2017 participated in the program. Eighteen teams (6 to 7 students each) attended a 20-minute Kampo-sommelier practice. Teams were provided 10 kinds of crude drugs (Licorice, Cinnamon, Ginger, Perilla, Jujube, Citrus Peel, Peach Kernel, Ginseng, Pinellia, Moutan) in three forms, original, cut, and powdered, while blinded to the type of substance. Each team distinguished each crude drug in terms of form, scent, taste, and color with reference to characteristics descriptions. Participation involved a sense of game-playing among teams. To evaluate the learning effect, an exam consisting of 10 questions to match the names of the 10 kinds of crude drugs with their descriptions was administered one month after the practice, without notice. The same questions were answered by liberal arts students of “A” university and medical students of “B” university, having no prior education on crude drugs, and pharmacy students of “C” university, with professional education in the field.

**Summary of Results:** The average score of 117 Tokai University students was 6.2 out of 10, significantly higher than that of 97 students from university “A” (3.4), and 85 from “B,” (3.1), and significantly lower than 135 from “C” (8.4) ( $p < 0.01$  for all).

**Discussion and Conclusions:** Even without knowledge of crude drugs, scores of  $>3$  points were gleaned from the descriptions. The fact that Tokai University students obtained significantly higher average score of 6.2 after 20 minutes’ practice suggests that this team-based learning is effective.

**Take-home Messages:** Kampo-sommelier practice is a useful active learning program to enhance the learning of Kampo medicine in a short time.



## #9II Posters - Teaching and Learning 1

### 9II02 (1409)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Checking For Understanding: Exploring a teaching methods gap between K-12 and medical education

#### AUTHOR(S):

- Holly Meyer, USUHS, USA (Presenter)
- Eric Meyer, USUHS, USA

#### ABSTRACT

**Background:** Checking for understanding is defined extensively in the USA K-12 literature as the explicit use of short, directed learner assessments during instruction to provide an immediate needs assessment of learner(s) progression to guide further instruction. Checking for understanding have been shown to build trust, improve future instruction, and help learners self-regulate their learning. Despite these benefits, checking for understanding is often overlooked or employed ineffectively in medical education, as seen with the ubiquitous “Does this make sense?” or “Any questions?” We set out to better understand if there are barriers to their use by medical educators.

**Summary of Work:** We developed a workshop for medical educators on incorporating checks for understanding. Over the course of two years, we completed 12, 1-hour workshops each with roughly 5-6 medical educators. The workshop started with a needs assessment related to understanding and comfort using checking for understanding. Next, participants reviewed a list of research supported (K-12) checking for understanding methods. They choose two methods to use in simulated teaching activity. After the session, participants were sent a brief 6-question post-evaluation.

**Summary of Results:** Prior to the session, participants reported low confidence in utilizing checks for understanding. Post workshop, respondents (46%, 23/50) reported increased confidence in incorporating checking for understanding (91%, 21/23), but several (32%, 15/46) reported that they were unsure if the methods for checking for understanding were applicable to medical education. Specifically, “time constraints” and “stressors of teaching in a clinical setting” were described as barriers to implementation.

**Discussion and Conclusions:** Our brief workshop improved the confidence medical educators have in implementing checking for understanding and their awareness of methods to check for understanding. The perceived barriers in utilizing checks for understanding in a clinical setting require further exploration so that strategies for use can be tailored to medical educators.

**Take-home Messages:** • Our brief workshop improved awareness and confidence in incorporating checking for understanding in a clinical setting. • There may be important differences in clinical education as compared to K-12 education that impacts the effectiveness of checking for understanding.

## #9II Posters - Teaching and Learning 1

9II03 (879)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### The Core Educator Initiative: Numbers and Implementation in Four Frames

#### AUTHOR(S):

- Sara Lamb, University of Utah School of Medicine, USA (Presenter)
- Kerri Shaffer, University of Utah School of Medicine, USA
- Candace Chow, University of Utah School of Medicine, USA

#### ABSTRACT

**Background:** The traditional “Parade of Stars” faculty model presents significant obstacles for undergraduate medical education. We use Bolman and Deal’s Four Frame model to describe the implementation of a new model in terms of structural, political, human resource, and symbolic challenges and successes.

**Summary of Work:** The University of Utah School of Medicine (UUSOM) implemented a Core Educator initiative. The initiative, which arose from a school-wide education retreat in 2016, was proposed to the Curriculum Committee in 2016, gained institutional support during 2017-18, and fully launched July 2018.

**Summary of Results:** The Core Educator model is comprised of course/clerkship directors, learning community faculty, small group facilitators, and a group of clinical and science domain experts who are responsible for designing and delivering all four years of curriculum in their content areas. Prior to AY 2017-18, ~370 unique faculty interfaced with the students in large group and small group settings. Our current model has 177 unique faculty amounting to ~30 full time equivalents supported for their education effort. Faculty represent 19 departments. The majority (60%) have MD or DO degrees, followed by faculty with PhD or DPhil degrees (37%). Most faculty (51%) are early-career. Finally, 59% of faculty serve as small group instructors while 41% are engaged in course and content design.

**Discussion and Conclusions:** This model allows us to focus our attention on a manageable number of faculty who dedicate a significant amount of time to education. The model is a vehicle for the UUSOM to address structural barriers around effective faculty development and curriculum design and to tackle political obstacles around education funding. It affords the opportunity to address human resource challenges, capitalizing on faculty strengths and building faculty capacity. Furthermore, the model attends to symbolic issues by overtly placing value on faculty as educators and role models.

**Take-home Messages:** This model is innovative for it prioritizes student learning over the traditional faculty structure. While not a quick fix, it has the potential to transform teaching, curricular development, and faculty development such that students become engaged learners and faculty discover renewed meaning and purpose in their careers.

## #9II Posters - Teaching and Learning 1

9II04 (3122)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The teaching skills that enhance a happy-classroom from students' perspective versus reality

#### AUTHOR(S):

- Direk Ekbawornwong, Suratthani Medical Education Center, Thailand (Presenter)
- Arunee Tipwong, Suratthani Medical Education Center, Thailand
- Thanita Somton, Suratthani Medical Education Center, Thailand

#### ABSTRACT

**Background:** Burnout among medical students is increasing. Happy-classroom is one of the simple ways that may help reduce the incidence. This study aimed to determine the teaching skills that can contribute happy-classroom comparing between what student expected and what they experienced in reality.

**Summary of Work:** A cross-sectional study was conducted in 84 medical students at Surat-Thani medical educational center. List of 15 factors in effective teaching skills was selected after literature reviews, and was added in an online questionnaire asking the students to rate its impact on happy-classroom from their own preferences comparing to what they experienced in reality. The gap between expectation scale and reality scale was defined as "gap of disappointment." Descriptive statistics was used.

**Summary of Results:** The students rated top three most effective teaching skills for building happy-classroom as 1) an ability to teach them knowledge application 2) an ability to create relaxing learning atmosphere, and 3) an ability to explain learning contents clearly. Top three least impact factors in student's perspective were 1) pretest-posttest designs 2) promoting students' self-reflection, and 3) ethical integration in teaching. Top three most widen "gap of disappointment" were about 1) creating relaxing learning atmosphere 2) teaching knowledge application, and 3) providing enough learning resources and references.

**Discussion and Conclusions:** Each "effective" teaching skills had different degrees of impact. It may cause from various learning style of the students and the context of training program. In this study, it showed that our students expected not only knowledge transferring skills, but also facilitating skills for making the learning atmosphere more relaxing and safe. In the setting of service-based hospital, the faculty staffs probably had limited time to focus on building up effective learning environment, which consequently causing the students felt disappointed with the classroom. However, promoting the continuing professional development in medical education, especially student-centered education, among faculty staffs may needed to help them balance the roles between care-provider and teacher.

**Take-home Messages:** Enhancing student-centered approach in faculty members could be a solution to help tailoring the different needs and build up more of the happier-classroom.

## #9II Posters - Teaching and Learning 1

9II05 (148)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Educating Medical Students: Are We Doing It Right?

#### AUTHOR(S):

- **Jill Cheng Sim Lee, KK Women's and Children's Hospital, Singapore (Presenter)**
- Mingyue Li, KK Women's and Children's Hospital, Singapore
- Rajeswari Kathirvel, KK Women's and Children's Hospital, Singapore
- Limin Kam, KK Women's and Children's Hospital, Singapore
- Tan Heng Hao, KK Women's and Children's Hospital

#### ABSTRACT

**Background:** KK Women's and Children's Hospital (KKH) is a tertiary hospital in Singapore catering specifically to women and children. We train medical students from all three medical schools in Singapore. We conducted this survey to find out the students' preferred methods of teaching to be able to tailor our curriculum delivery to meet our students' needs and preferences.

**Summary of Work:** We surveyed a total of 83 Year 4 medical students; 53 from Lee Kong Chian School of Medicine (LKC) and 30 Year 4 medical students from Yong Loo Lin School of Medicine on their first day of Obstetrics and Gynaecology (O&G) postings in KKH to find out their preferred teaching methods and settings. We repeated the survey at the end of their postings with the same questionnaire to find out if their preferences had changed after experiencing the current curriculum delivery methods.

**Summary of Results:** At the start of their postings, 88.9% chose small group setting and 9.9% chose one-to-one setting as compared to 87.0% and 10.4% respectively at the end of their postings. The top 3 preferred methods of teaching at the start of postings were bedside teaching/direct observation, case-based discussion and lectures. At the end of their postings, the first two remained the same. However, e-learning was preferred over didactic lectures among the LKC students. It was felt that bedside teaching/direct observation and case-based discussions prepared the students best for clinical learning in O&G and this did not change at the end of their postings.

**Discussion and Conclusions:** According to the survey, medical students preferred small group settings for clinical teaching and their preferred methods of teaching were bedside tutorials/direct observation, case-based discussions and e-learning. We uploaded voiceover Power Points on common topics in O&G in their online learning platform to give them an overview of the topic prior to their postings. This helps them to be better prepared for their clinical postings and allows more time for smaller group discussions/bedside tutorials during their short posting.

**Take-home Messages:** It is important find out the medical students' preferred methods of teaching to maximize their learning experience.

## #9II Posters - Teaching and Learning 1

9II06 (700)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Students organizing a large-scale teaching week to close the academic year - dealing with freedom and responsibility

#### AUTHOR(S):

- Gert Olthuis, Radboud University Medical Center, The Netherlands (Presenter)
- Anke Oerlemans, Radboud University Medical Center, The Netherlands
- Marc Vorstenbosch, Radboud University Medical Center, The Netherlands
- Bas Schouwenberg, Radboud University Medical Center, The Netherlands
- Esther Tanck, Radboud University Medical Center, The Netherlands

#### ABSTRACT

**Background:** Students of the bachelor curricula Medicine and Biomedical Sciences of the Radboudumc largely follow the same teaching program. To stimulate integration and improve cohesion between the years and studies, every academic year closes with a large-scale teaching week for 1200 students: the Radboud Student Conference (RSC).

**Summary of Work:** The RSC is organized by a group of 5-8 dedicated (bio)medical students, supervised by three faculty members. These students have to apply for team membership and receive 4EC for their efforts. The RSC includes presentations of projects, a conference day on biomedical sciences, and a sports day. The program closes with a 'Generation day', where students bring family members to get acquainted with their study. In order to explore the experiences of students on the organizing committee, we held four focus group interviews. Main question: what is it like to organize a large-scale educational event for fellow students?

**Summary of Results:** Analysis of the focus group interviews brought forward four main themes. 1) The motivation to join the organizing team; no informal committee but serious teamwork to organize an event for peers. 2) Organizing the RSC gave students both a sense of freedom and the responsibility to succeed. 3) Students experienced positive and negative aspects of collaboration with peers and faculty members. 4) Organizing the RSC was an educational experience and contributed to personal development.

**Discussion and Conclusions:** It is worthwhile to understand the process of organizing The RSC from the perspective of the 'zone of proximal development'. Students' learning process is stimulated by tasks that are too hard for them to do on their own, but simple enough to do with assistance. In a nutshell, students learned the importance of trusting co-organizers and enjoyed the final result: a well-organized week. Several students indicated: 'By organizing this event we have learned so much more than in regular courses'.

**Take-home Messages:** (Bio)medical students are capable of bearing the responsibility to organize a large-scale educational event. Supervision of faculty members seems a prerequisite, and tends to be supportive rather than guiding.

**Reference:** 1. Wass R, Golding C. Teaching in Higher Education 2014;19(6):671-684.



## #9II Posters - Teaching and Learning 1

9II07 (111)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring beneficial factors associated with non-technical skills for students studying Western and traditional Chinese medicine: A longitudinal mixed methods study --- report on baseline assessment

#### AUTHOR(S):

- Ching-Yen Chen, Department of Psychiatry, Chang Gung Hospital, Keelung, Taiwan (Presenter)
- Nan-Wen Yu, Department of Psychiatry, Chang Gung Hospital, Linkou, Taiwan

#### ABSTRACT

**Background:** One of the primary goals of medical education is to educate empathic, ethical, patient-centered clinicians. Medical non-technical skills (NTSs), known as professional skills and humanistic attributes, are crucial for effective and safe performance within clinical settings. Many of these NTSs are developed through a process involving cultural issues and learning environment. There has been no research to study the influence of how learning medicine within different cultural spaces might facilitate or inhibit the learning of NTSs. The impact of different learning cultures on the development (or decline) of NTSs is pending discussion.

**Summary of Work:** The present research aimed at investigating factors across three distinct cohorts of Taiwanese medical students: 1. Students learning Western medicine in Western cultural spaces (WW) 2. Students learning Western medicine in Taiwan (WT) 3. Students learning traditional Chinese medicine in Taiwan (CT) We exam medical students' understandings of NTSs' (such as self-compassion, compassion/empathy, ethical practice), and then undertake a longitudinal examination of how these NTSs are cultivated (and might be enhanced) across different cultural spaces. We will also examine the relationship between measures of NTSs' and professional quality of life (including resilience and burnout). This 2-year study adopts a longitudinal mixed-methods cross-sectional approach using both qualitative and quantitative studies.

**Summary of Results:** currently we only have initial data on the beginning of internship. The CT group has higher compassion care, total empathy, self-kindness, and secondary trauma scoring. The WW group has lower total empathy, higher burnout and self-criticism scoring.

**Discussion and Conclusions:** Previous studies hypothesized that Asian medical students have relatively low empathy scores because of the variation in sentiments and empathy, which is influenced by different culture the students have. Our data show the CT group has highest scores on "empathy", higher scores on compassion satisfaction and secondary trauma stress may indicate that Chinese culture influences the Chinese medicine obviously. The WW students show highest burnout scores which may reflect the students have difficulties in dealing with daily work stress.

**Take-home Messages:** From the initial data, it supports the culture factor may play a factor in compassion care and empathy essentially.

## #9II Posters - Teaching and Learning 1

9II08 (2701)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Sciences Undergraduate Students' Perception on the Use of Problematization as an Active Methodology for the Medical Internship in Public Health

#### AUTHOR(S):

- **Rogério Vaz, Faculdades Pequeno Príncipe, Brazil (Presenter)**
- Marcelo Rodrigo Caporal, Faculdades Pequeno Príncipe - PECS, Brazil
- Patricia Rauli, Faculdades Pequeno Príncipe - PECS, Brazil
- Izabel Coelho, Faculdades Pequeno Príncipe - PECS, Brazil
- Giseli Rodacoski, Escola de Saúde Pública do Paraná - SESA-PR, Brazil

#### ABSTRACT

**Background:** The training of students in health has been based on passive methodologies of teaching, where students assume the role of passive individuals, without questioning, and internalize the concepts and repeat them mechanically.

**Summary of Work:** To analyze the participants' perception of the methodology of the internship in the medical school of a HEI with a traditional teaching background, and to introduce problematic practices in the public health seminars, to identify the participants' perceptions about the use of the active methodology and their opinions regarding the method used, and recognize the difficulties and potentialities in the implementation of the problem-solving practice in the seminars. This work consists of a case study, with qualitative and exploratory research, based on the Collective Subject Discourse method (Lefevre & Lefevre). The study took place in the classroom during the weekly public health seminars, in which they were applied to 14 participants. After a week of interval for theorizing, they returned to finish the arch (Maguerez), with the elaboration in the classroom of the hypotheses of solution and application to reality, through written record. At the end of the training, a semi-structured individual interview was conducted, with four questions, with participants.

**Summary of Results:** The results demonstrate the combination of mostly positive and negative impressions regarding the use of the proposed methodology. The understanding of the majority of the students of the importance of the socialization of the process of teaching and learning of the lecturer with the student was obtained; in addition, they believe that the early use of this methodology would be better for learning.

**Discussion and Conclusions:** the use of the active methodology was well accepted by the study participants, it is concluded that the use of this methodology in undergraduate courses in traditional teaching medicine can serve as an alternative to train more human, ethical, critical and reflexive professionals.

**Take-home Messages:** This study does not exhaust the discussion about the insertion of active methodologies in traditional HEI. For this reason, it is believed that new work perspectives may help to sensitize other lecturers to a curricular change, and attitude towards their students and the educational institution.

## #9II Posters - Teaching and Learning 1

9II09 (1339)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Involvement Helps Medical Students Feel Communication Skills, Attitudes, and Ethics: Multivariable Analyses at Chiba University, Japan

#### AUTHOR(S):

- Yohei Matsumoto, Chiba University, Japan (Presenter)
- Satoshi Okada, Chiba University, Japan
- Shoichi Ito, Chiba University, Japan
- Kazuyo Yamauchi, Tokyo Womens Medical University, Japan
- Misaki Onodera, Chiba University, Japan
- Mayumi Asahina, Chiba University, Japan

#### ABSTRACT

**Background:** This study examines what kind of medical students thoughts or behavior stipulates the sense of acquisition of the communication skills, attitude, and ethics for medical doctors, by multivariate analysis, with the data obtained from the questionnaire survey at Chiba University School of Medicine, Japan. Concerning students' learning outcome, the prior study clarified that the enthusiasm for curricular work powerfully influences students grade point average (GPA); however, it did not consider of other academic achievements such as communication skills, attitudes, and ethics.

**Summary of Work:** Referring to the competencies formulated by Chiba University School of Medicine, this study carries out multivariable regression analyses with the data for institutional research (IR) collected from medical students who graduated from 2013 to 2016 (n=379). The investigation sets some dependent variables related to the sense of acquisition of the communication skills, attitudes, and ethics. It applies several independent variables; for instance, the involvement with others such as the faculty and mates, enthusiasm for curricular/extra-curricular work and activities, students career-consideration, and socio-economic status.

**Summary of Results:** Analyses indicate that the involvement with others has a significant impact on dependent variables (R-squared value=0.295-0.314). Regarding communication skills, both of the involvement with the faculty and mates affect. On the other hand, concerning attitudes and ethics, the involvement not with the faculty but with mates is effective. Besides, the zeal for national licensing examination has a substantial effect. While the eagerness for clinical clerkship and academic research is partially valid, that for lectures of medicine or general education is not. There is also no effect of extra-curricular activities.

**Discussion and Conclusions:** It is evident as expected that more learning by students is essential to acquire the competencies, given that the preparation for national licensing examination regulates the sense of acquisition of communication skills, attitudes, and ethics. However, the effect of involvement with the faculty and mates indicates that it is difficult to acquire some particular competency by individual learning only.

**Take-home Messages:** Not only encouraging medical students to learn autonomously but also the involvement with the faculty and mates help them feel communication skills, attitudes, and ethics.

## #9II Posters - Teaching and Learning 1

9II10 (1541)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical students' perceptions of learning and the relation between Metacognitive Awareness and Motivation to Learn: a qualitative and quantitative analysis

#### AUTHOR(S):

- **Marina Alves Siqueira, University of Sao Paulo Medical School (FMUSP), Brazil (Presenter)**
- Johnatan Padovez Gonçalves, University of Sao Paulo Medical School (FMUSP), Brazil
- Vitor Silva Mendonça, University of Sao Paulo Medical School (FMUSP), Brazil
- Fernanda Magalhães Arantes-Costa, University of Sao Paulo Medical School (FMUSP), Brazil
- Patrícia Zen Tempski, University of Sao Paulo Medical School (FMUSP), Brazil
- Milton de Arruda Martins, University of Sao Paulo Medical School (FMUSP), Brazil

#### ABSTRACT

**Background:** Medical school is highly competitive and students are constantly assessed and expected to meet rigorous academic requirements. Thus, it is crucial to understand student's demands and encourage adaptive learning strategies. Self-regulated learning is a comprehensive and holistic approach, consisting of metacognitive awareness, intrinsic motivation and strategic action.

**Summary of Work:** A cross-sectional study was performed with undergraduate students from University of Sao Paulo Medical School, to evaluate self-reported Metacognitive Awareness (MAI) and Motivation to Learn (Baranik, Barron, and Finney's 2x2 achievement goals instrument) through a quantitative analysis. A qualitative analysis about Motivation was performed through an open-ended question attached to questionnaires.

**Summary of Results:** One hundred and eighty five students (53%) accomplished the survey. A positive correlation was found between higher scores for Metacognitive Awareness and mastery-approach goal orientation ( $p = 0.003$ ) plus lower scores for MAI and mastery-avoidance goal orientation ( $p = 0.034$ ). One hundred and fifty three (83%) students endorsed mastery-avoidance goals. There was no significant correlation between scores of MAI and performance-oriented goals. The open-ended question disclosed altruism, personal satisfaction, financial feedback, personal and supportive networks and graduating as motivation factors.

**Discussion and Conclusions:** The results reinforce that learning process includes not only one's cognitive ability, but metacognitive, behavioral, motivational, and emotional/affective aspects. Analysis indicate that the large majority of students endorse mastery-avoidance goal orientation, which is significantly associated with lower metacognitive awareness as well as poor psychological well-being and inadequate coping and learning strategies, according to literature. The open-ended question demonstrated motivation to learn either depends only on the curricular structure, as it is influenced also by social responsibility, perception of educational environment, personal relations and psychological aspects.

**Take-home Messages:** As educational institutions, faculties must be aware of students' demands in order to provide a welcoming and salubrious environment that enhances capabilities, promotes well-being and potentializes effective learning strategies in order to ensure that they are able to cope with future challenges in their professional careers, besides providing the society with well-trained doctors.

## #9II Posters - Teaching and Learning 1

9II11 (615)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring practical tips to teach structural competency - A lesson from experience to develop an introductory session for family physicians and residents in Japan

#### AUTHOR(S):

- Junichiro Miyachi, Hokkaido Centre for Family Medicine, Japan (Presenter)
- Yoshinori Matsui, Hokkaido Centre for Family Medicine, Japan
- Kazuki Matsushima, Kansai-FM/Kanai Hospital, Japan
- Yuka Miyachi, Kyoto University, Japan
- Yumi Nomura, Doshisha University, Japan
- Makoto Nishi, Graduate School of Asian and African Area Studies, Kyoto University, Japan

#### ABSTRACT

**Background:** Structural competency (SC) is a novel educational approach which recommends clinicians to recognize structural factors beyond doctor-patient relationship when addressing stigma and inequalities. This presentation aims to share our strategies and experience of introducing SC to family physicians and residents in Japan.

**Summary of Work:** First, we noticed the relative scarcity of scholarly debate regarding the limitation of cultural competency approach which is a common primer of SC in the US context. Given this point, we assumed that it would be better to contextualize SC as a complement of Bio-Psycho-Social model which is widely accepted among family physicians in Japan. Next, to identify cases suitable for introducing SC and practical tips to gather and analyze structural information, the first and second authors reflected clinical experience and conducted interviews with two health professionals who frequently manage structural issues. Based on these points, our preliminary workshop consists of three parts; a brief introduction of SC, a case presentation illustrating clinical strategies based on SC, and reflection on the participants' past clinical experience.

**Summary of Results:** We performed the first pilot in Jan 2019 with a post-workshop discussion to receive feedback. The second and third workshops will be performed in February and May 2019. Observation of the discussion during the workshops and a questionnaire will be performed to evaluate the workshops.

**Discussion and Conclusions:** The preliminary reflection on the pilot suggests that emerging interest among family physicians in social aspects of health such as Social Determinant of Health and the emphasis on a contextualized understanding of patients in the postgraduate family medicine curriculum seems to facilitate their learning. Meanwhile, learners' inexperience in reasoning processes in social sciences (abduction and comparative analysis) requires caution in selecting tasks during the workshop. Another suggested barrier is difficulty in preparing appropriate cases which are complex enough to reflect the entanglement between structures and health but not too complicated to cause excessive cognitive load. An explicit explanation of different modes of reasoning and continuous revision of educational cases would be keys to overcome the barriers.

**Take-home Messages:** Developing case scenarios relevant to learners and explicit explanation about reasoning modes would be the key to organizing teaching sessions of SC.



## #9II Posters - Teaching and Learning 1

9II12 (202)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Improving graduate attributes by implementing an experiential learning teaching approach: a case study in recreation education

#### AUTHOR(S):

- Cornelia Schreck, North-West University, PhASRec, South Africa (Presenter)
- Theron Weilbach, North-West University, PhASRec, South Africa
- Gerda Reisma, North-West University, CHPE, South Africa

#### ABSTRACT

**Background:** Recreation students lack some skills and competencies at the beginning of their careers. This may be related to passive learning settings with limited or no exposure to practical experiences during training. To gain the required competencies, student need to be exposed to active learning processes.

**Summary of Work:** The focus on this study was to establish if an experiential learning teaching approach, implemented in a recreation degree programme, can develop students' graduate attributes (employability skills and competencies). A holistic single-case, case study design employing a convergent parallel mixed method pre-post test design was used. An adaption of Kolb's experiential learning principles were applied in a final year recreation module at a higher education institution. The ROPELOC questionnaire (measuring personal effectiveness) and a self-report competency assessment survey were completed by 28 students at the beginning and end of the semester. Qualitative data included student reflections and focus group interviews. Data were analysed using descriptive statistics and inductive coding.

**Summary of Results:** The ROPELOC revealed statistical significant improvement in the student's leadership skills and their overall effectiveness. Research skills, adaptability, technical and computer skills, problem solving and knowledge of the profession were competencies that increased significantly over the semester. From the qualitative data several categories, linked to needed graduate attributes, emerged. Knowledge of the profession was the most mentioned category.

**Discussion and Conclusions:** Exposure to experiential learning situations improved graduate attributes of recreation students during their training. Kolb's revised experiential learning formed the basis of the teaching approach. This active learning approach is valuable in preparing recreation students for the world of work.

**Take-home Messages:** These results support the view that an experiential learning teaching approach are beneficial in the preparation of recreation graduates, and should form the teaching foundation for recreation in higher education. Further research on how Kolb's experiential learning can be further implemented in recreation studies is needed.

## #9II Posters - Teaching and Learning 1

9II13 (740)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Using educational analytics to produce a dashboard for success

#### AUTHOR(S):

- **Andrew Vaughan, University of Manchester, UK (Presenter)**
- Hilary Dexter, University of Manchester, UK
- Colin Lumsden, University of Manchester, UK

#### ABSTRACT

**Background:** To provide students with appropriate and timely support for their learning, a better understanding of the key factors which influence outcomes is needed. An educational analytics approach was taken to producing an individualised dashboard, designed to ‘nudge’ students towards relevant learning activities and provide indicators of support needs.

**Summary of Work:** Data, collected over two years from medical students in the first of their three clinical years, describing learning activities, behaviours and key end of year assessment outcomes, was analysed by both supervised and unsupervised learning methods, to identify the variables pertinent to student performance. The findings were used to create an individualised student dashboard, to be accessed via their online system. Here we present the data exploration and initial dashboard design.

**Summary of Results:** Principal Component, Random Forest and Discriminant Function analyses all identified the same set of variables as relevant to student learning outcomes. There were two key variable groupings, determined by their relative influence: one encompassing learning engagement (LE) and the other welfare and attendance (WA). Five sets of student assessment and progression outcomes were overlaid on to a scatterplot displaying student ‘scores’ calculated from the variable groupings. These all showed that those students in the ‘higher LE and lower WA’ quadrant had better outcomes, on average, than those in the ‘lower LE and higher WA’ quadrant. The initial dashboard design presented the student’s learning characterisation ‘position’ and provided suggestions for improving their learning.

**Discussion and Conclusions:** Clear groupings of variables were identified as indicators of individual student performance. This suggests that individualised dashboards for students may be based on educational analytics which combine both behavioural and learning data. Characterisation of an individual’s learning journey has the potential to facilitate timely support and provide nudges towards better learning behaviours. Evaluation by students and teachers will determine the dashboard’s usability and usefulness. To assess the effectiveness of this approach, analysis of changes in student learning activities will be carried out following implementation of the dashboard.

**Take-home Messages:** Providing support and guidance based on educational analytics and delivered through individualised dashboards has the potential to enhance student learning.

## #9II Posters - Teaching and Learning 1

9II14 (3217)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Knowledge management: out of semantic swamp

#### AUTHOR(S):

- Snor Bayazidi, School of Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran (Presenter)
- Shahram Yazdani, School of Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran

#### ABSTRACT

**Background:** There is a lack of consensus on elementary issues in KM. While disagreements on theoretical, and rather philosophical, concepts are present in every domain, the KM community has failed to agree on the core concepts that could act as foundations for the field's further development. Authors disagree on KM approaches, on terminology and even on the main elements and processes of a KM. Due to this issue despite numerous researches, those who intend to work in this area face the difficulty in understanding concepts. By this reason, the purpose of this study is clarify the boundary between concepts, identify the definition attributes, and define the theoretical definition on the known concepts, and ultimately identify their position and application in the KM process.

**Summary of Work:** The methodology used in this study was based on Walker and Avant's concept synthesis. At the beginning, focal concepts in the field of knowledge management were identified, a list of meanings and concepts was developed, and by literature review and recognizing definitional attributes the boundary between concepts was clarified. Then Based on known attributes, theoretical definitions were provided. Finally, the relationship between the concepts was identified and presented in a semantic anthology including seventy-five concepts.

**Summary of Results:** There are numerous and complex concepts in this field, the boundaries between which are unclear and used interchangeably, the main reason for this matter is the lack of familiarity of people involved in knowledge management and their ability to distinguish between the core concepts and the main steps that take place in knowledge management.

**Discussion and Conclusions:** In this study we were able to clarify the boundary between concepts based on defining characteristics, to express relations between concepts in a hierarchical manner, to define theoretical definition for some concepts, and to redefine some of the terms. But there is a need for research that can, based on our results, locate these concepts in a comprehensive model and establish a proper relationship between concepts.

**Take-home Messages:** Our result is the semantic structure presented in the form of concept tree, this is the beginning for rational and correct placement of concepts in the knowledge management process.

## #9II Posters - Teaching and Learning 1

9II15 (491)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Articulation of the Counterfactual - Unravelling the homogeneous student group to make the invisible visible

#### AUTHOR(S):

- Catherine Hardie, University of Toronto, Canada (Presenter)

#### ABSTRACT

**Background:** The “imagined identity” of the health professional spills over to assumptions of a homogeneous student who share perspectives that quite seamlessly match the dominant discourses in health care. The reality of the human environment in clinical settings is that it is the site for the interface of remarkable diversity of identities - of students, patients, staff and clinical teachers. Perception and reception of individuals with “different identities” in this context is not typically overtly problematized but issues of power, hierarchies, definitions of “difference” (which “differences” make a difference and for whom) and the traditional roots of health care delivery remain unexamined. In a deliberately provocative challenge, some authors suggest that one of the key (and unacknowledged) functions of clinical teachers is to teach the “different” student how to adapt to expectations or practices associated with the dominant group perspective, values and beliefs.

**Summary of Work:** The importance of challenging these taken-for-granted assumptions and understandings related to the construction of “difference” in health professional groups logically should be part of the responsibility of the clinical teacher. Experiences in clinical supervision, facilitation of workshops and a certificate course for instructors in clinical contexts have highlighted the importance of attention to defining evidence based teaching practice within a framework of critical pedagogy.

**Summary of Results:** Two models provide utility in analysis of the experience of marginalized students in health professional programs. According to Lukes (1974) the effects of invisible power generally escape awareness of the people involved. Explication of the counterfactual means attempting to understand power processes where no grievances are expressed (through the ideological shaping of subordinates belief) and to envision what subordinates would have done in the absence of the power group.

**Discussion and Conclusions:** The Butin Conceptual Model (2005), developed for service learning programs, has relevance where service and clinical learning situations share essential elements related to equity, diversity, and attitudes towards the ‘Other’.

**Take-home Messages:** The models encourage development of goals to improve educational practices informed by critical social theory. Relevance will be demonstrated in terms of Butin’s four lenses - the technical, cultural, political and postmodern, shaped by an overarching construction of an imagined counterfactual reality.

## #9II Posters - Teaching and Learning 1

9II16 (2778)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Application of Mastery Learning Theory through the use of a narrative-based educational instrument in respiratory therapy

#### AUTHOR(S):

- Yun-ting Tseng, National Taiwan University Hospital, Taipei City, Taiwan (Presenter)

#### ABSTRACT

**Background:** Respiratory Therapy is a highly skill-driven specialty. In medical school, we had several workshops to help students develop competency in essential skills. We designed a small-group instruction program to demonstrate, teach and let them practice the skills of respiratory therapy. Students were assessed using a checklist upon completion of the workshop. We observed that they tend to follow memorized steps that emulate the techniques demonstrated by the instructors without achieving a deeper understanding. The objective of our project was to redesign the workshop of respiratory skills following the mastery learning framework, to encourage self-reflection and improvement of learning in skills.

**Summary of Work:** We designed the reflection report in each class to encourage deeper learning. Each paperwork contains questions pertaining to the applications of each device included in the curriculum. Students asked to read the questions and consider them as they think about the skills they are practicing. After the skills demonstration and practice, learners are instructed to reflect on the specific learning objectives and provide a narrative answer to each of the questions. The use of narration encourages deeper thinking that enhances cognitive and psychomotor learning.

**Summary of Results:** According to the result, students performed better in the third course (lung expansion therapy) than in the first course (oxygen therapy).

**Discussion and Conclusions:** The results of the evaluation highlighted that students find the reflection report enjoyable, and strongly agree that it helps them reflect and improve their psychomotor skills. We also perceived better learner engagement and educational outcomes with the use of the reflection report.

**Take-home Messages:** Application of narrative-based educational instrument in respiratory therapy may enhance psychomotor and cognitive learning. In contrast, the ability of professional field may be promoted.



## #9II Posters - Teaching and Learning 1

9II17 (1216)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Exploring 'Lightbulb Moments' in Medical Student Simulation Teaching: A Threshold Concept Analysis

#### AUTHOR(S):

- Philip Davidson, Brighton and Sussex Medical School, UK (Presenter)
- Ceri Butler, Brighton and Sussex Medical School, UK
- Sarah Rafferty, East Surrey Hospital, UK

#### ABSTRACT

**Background:** Threshold Concepts (TCs) represent transformative moments during which learners are challenged and pass through a metaphorical gateway having gained new insights (Meyer & Land, 2003). They are increasingly being explored in medical education. This study seeks to build on Hokstad's research (Hokstad & Gundrosen, 2016) on medical student simulation teaching to identify new TCs in this field.

**Summary of Work:** Following the adoption of the interpretative phenomenological analysis (IPA) approach (Smith, Flowers, & Larkin, 2009), 11 penultimate and final year medical students were interviewed after simulation teaching using a semi-structured interview protocol. Interview data was audio recorded, transcribed and analysed using open, inductive coding to identify emergent themes related to TCs in simulation.

**Summary of Results:** 7 key themes related to TCs were identified. These included three novel TCs: escalation to senior colleagues; effective delegation and communication with nurses; and the use and application of resources in practice. Other themes - identified by previous studies - include: 'becoming a professional' (Neve et al, 2016) and 'transforming learning into reality' (Wright et al, 2016).

**Discussion and Conclusions:** Applying learning to practice can be challenging when students step into the shoes of the medical practitioner, such as during simulation teaching. This is often a transformative time during which learning is challenged and previously unseen or unknown practical difficulties in real-world medicine, such as communicating with colleagues, are revealed. This can have implications for when students start working as junior doctors and are found to lack certain proficiencies. The identification of these emergent TCs in simulation teaching provides us with new ideas to develop curricula, adopt new teaching methods and support medical students as they are prepared for clinical practice.

**Take-home Messages:** The Threshold Concept Framework has enabled us to identify three new TCs in medical simulation teaching: escalating to seniors, communication with nurses and utilisation of resources. These TCs offer medical educators new ways of developing learning outcomes, teaching methods and curricula to prepare students for clinical practice.

## #9II Posters - Teaching and Learning 1

9II18 (2395)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Applying a learning contract method to the teaching of clinical respiratory therapy

#### AUTHOR(S):

- Jui-Fang Liu, Department of Respiratory Therapy, Kaohsiung Chang Gung Memorial Hospital, Taiwan (Presenter)
- Nan-Wei Liu, Department of Education, National Chengchi University, Taipei, Taiwan
- Ching-Wan Tseng, Department of Respiratory Therapy, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Shih-Feng Liu, Department of Respiratory Therapy, Kaohsiung Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** The benefits of contract learning have been identified in the literature. The learning-contract method was applied to a clinical teaching class to increase learners' motivation levels and to meet their individual needs.

**Summary of Work:** Before the class, we explored each learner's needs and implemented a learning assessment. Following discussion, we agreed on a learner-centered learning contract. This included learning plans, goals, classes, activities, and outcome assessments. Then, we constructed a class based on teaching structured upon the guidelines of the learning contract

**Summary of Results:** A total of 30 intern students participated in this research project, which lasted for one month. The learning contract was found to have a positive influence on the interns' levels of learning motivation, learning autonomy, and self-fulfillment, as well as teacher-student interaction and teachers' teaching effectiveness. The participants in the research class gained higher scores for knowledge, skill, and attitude than did participants in a traditional class.

**Discussion and Conclusions:** For teachers, the most crucial element of the learning contract was converting from teacher-centered to student-centered teaching. For students, the most crucial element was implementing self-directed study.

**Take-home Messages:** To effectively introduce a learning contract model in clinical teaching, teachers must implement student-centered teaching. This must be based on students' knowledge, interests, and preferred learning methods. By inspiring students' interests, their levels of independent learning ability and motivation can be increased.

## #9II Posters - Teaching and Learning 1

9II19 (815)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Does simulated video creation get more memory retention for medical students?

#### AUTHOR(S):

- Watchara Rattanachaisit, Medical Education Center Chiangrai Prachanukroh Hospital, Thailand (Presenter)
- Vich Thampanya, Medical Educational Center Chiangrai Prachanukroh Hospital, Thailand

#### ABSTRACT

**Background:** The Learning Pyramid suggests that “Lecture” is one of the most ineffective methods for learning and retaining information because they only retain 5% of the information. Using different methods and strategies of presenting material to students, or students presenting material to each other, results in differing average rates of retention and more learning.

**Summary of Work:** To confirm the statement that “the more you teach, the more you know” for medical students by using a tutorial process. The 30 fourth year medical students were assigned to take their pretest examination about Alopecia areata and scabies before watching a dermatology video made by teachers and after that a post-test examination. Then they were divided into 3 groups, small group discussion (n=10), making teaching video instruction (n=10) and Self-Directed Learning ;SDL (n=10). The primary endpoint is a composite score by using a comprehensive test one month later to compare learning retention. The secondary endpoint is students’ satisfaction by using group discussion with a teacher.

**Summary of Results:** Dermographic data was not different among groups in terms of age, sex, GPA, pretest and post-test scores. After 1 month of intervention, the group which made the teaching video had a significant statistical improvement beyond that of the other two groups, (p = 0.03).

**Discussion and Conclusions:** The highest score of the comprehensive test in the teaching video creating group was observed. This result might come from the more information gathered from reading, listening, demonstrations and discussions within the group. In conclusion, encouraging medical students to teach others before graduation is a helpful method for learning. They will have longer term memory retention of knowledge than those students learning solely from the previous methods such as lecture by attending staff.

**Take-home Messages:** The phrase “The more you teach, the more knowledge you know” is true. Additionally, new beneficial relationships are built during the process.



## #9JJ Posters - Clinical Teaching 2

9JJ01 (2688)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The comparison of mechanical ventilation learning outcomes between bedside interactive learning and conventional lecture learning in fifth year medical students, Phrae medical education center

#### AUTHOR(S):

- Parichat Niyomthong, Phrae Medical Education Center, Naresuan University, Thailand (Presenter)

#### ABSTRACT

**Background:** Mechanical ventilation learning is one part of medical education learning for medical students. It is quite challenging topic for teachers to make them clearly understand because it is complicated learning content. This study was conducted to find the better way for this learning in terms of better knowledge and more satisfaction outcome for medical students.

**Summary of Work:** Objectives: The primary aim was to compare knowledge improvement outcome between bedside interactive learning and conventional lecture learning in fifth year medical students. The secondary aim was to compare satisfaction outcome between each group. Study Design and methods: Randomized controlled trial was conducted at Phrae medical education center, Naresuan University, Thailand. All fifth year medical students were randomized into 2 groups, group A for bedside interactive learning and group B for conventional lecture learning. Before learning all students were evaluated pretest with total scores 100% and after learning students in each group were evaluated posttest and satisfaction questionnaires.

**Summary of Results:** Baseline characteristic of medical students were similar in both bedside interactive learning group and conventional lecture learning group. All medical students had significant knowledge improvement after learning in both groups when compared with baseline knowledge (p-value 0.021, 0.005 respectively). When compared between two groups, students in bedside interactive learning group had more knowledge improvement and more satisfaction outcome than conventional lecture learning with statistically significant (p-value 0.011, 0.001 respectively).

**Discussion and Conclusions:** Bedside interactive learning for mechanical ventilation learning course had statistically significant knowledge improvement and more satisfaction outcome than conventional lecture learning. Most medical student preferred to learn mechanical ventilation with this learning type because they participated in one part of the learning and can clearly understand by practice themselves and acted as the real situation.

**Take-home Messages:** Bedside interactive learning is a better choice for mechanical ventilation learning in terms of knowledge improvement and satisfaction outcome for medical students.

## #9JJ Posters - Clinical Teaching 2

### 9JJ02 (224)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

**Combine fluorescent dye and ultraviolet light detection device, aseptic technique operation key points in learning process investigation and teaching response improvement**

#### AUTHOR(S):

- Nelson (Chih-Hung) Chen, Department of Gastroenterology Medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan (Presenter)
- Chia-Te Kung, Department of Emergency Medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Meng-Chih Lin, Department of Pulmonary and Critical Care, Kaohsiung Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** 1. Central venous displacement is the key resource of hospital blood source infection resources. 2. To improve central venous displacement aseptic displacement, workshop for inexperienced CVC student training either in educational or clinical situation conditions, agree that washing hand accounts most deficits. 3. Combine fluorescent and ultraviolet light detection device to investigate errors resources. 4. combine fluorescent and ultraviolet light detection device to assure student before and after photo taken hand washing hygiene contaminated areas percentage and locations for student reflection and improvement.

**Summary of Work:** 1. Student dips with fluorescent dye before washing hand, photo taken for pre-test. 2. Follow formula to repeat washing procedure, detect by ultraviolet light as post-test result. 3. Comparisons of photo pre and after tests assist by label fluorescent dye of unclean washing hand areas to feedback student and tutors.

**Summary of Results:** 1. Pre-test indicate 59 students of both hands > 2 spots in hygiene errors, reduce to 1 after test, but 1 spot contamination dye increases to 80%, fall short of expectation. 2. both hands thumbs, first finger, middle finger nail beds left 80% dye. 3. Pre & post tests shown contamination areas reduction but mainly on nail beds. 4. Therefore, washing hands procedure (inside, outside the folder, big, vertical, wrist areas) formula shall modify 5. 99% course satisfactory regard "improve future aseptic practice".

**Discussion and Conclusions:** 1. Workshop evaluation result and clinical competition, agrees that washing hand is the most crucial for infection control! 2. Apply fluorescent dye combine UV light detection shown unclean hand proportion and locations for student's errors. 3. Label unclean areas before and after tests, remind tester reflect hand washing for improvement. 4. Combine photo contaminated areas proportion label before and after tests, well apply adult education reflections for hand washing improvement! 5. Milestone learning experience concept introduction assists by tutor for technique reliability, let student sense learning effects. 6. Washing hand formulas is the direction to remind student for overlook details.

**Take-home Messages:** Learning experience introduction assists by EPAs reliability evaluation workshop allow student sense both in clinical or training situation. Simple technique sometimes being overlook as student tends to pursuit higher technique and success rate.



## #9JJ Posters - Clinical Teaching 2

9JJ03 (1510)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The willingness to perform bystander cardiopulmonary resuscitation in out-of-hospital cardiac arrest victims of Thai clinical-year medical students

#### AUTHOR(S):

- Wachiraporn Phooripoom, Surin Medical Education Center, Suranaree University of Technology, Thailand (Presenter)
- Pakarat Sangkla, Surin Medical Education Center, Suranaree University of Technology, Thailand

#### ABSTRACT

**Background:** Cardiopulmonary resuscitation (CPR) is a life-saving first aid as it increases the chance of survival of the patients if started immediately after cardiac arrested. The purpose of this study was to know the willingness of Thai clinical-year medical students to perform bystander CPR in out-of-hospital cardiac arrest victims.

**Summary of Work:** The descriptive cross sectional study was conducted in the Surin Medical Education Center, Thailand. Ninety-six clinical-year medical students (4th, 5th and 6th year) were enrolled. The frequency of in-hospital CPR that the medical students had experienced was analyzed, then they were asked to rate their willingness to perform bystander CPR under twelve hypothetical scenarios by using a 4-point Likert scale including "Walk away," "Offer to call ambulance but do not CPR," "Chest compression only (CC)," and "Chest compression with mouth-to-mouth ventilation (CC + MMV)". "CC" and "CC + MMV" were recorded as a positive response.

**Summary of Results:** The frequency of being a member in the real in-hospital CPR of the medical students was 14-26 times in the entire clinical year. From the hypothetical scenarios, all students had positive responses for out-of-hospital cardiac arrest victims who were their own family members or friends but only 22.6% of the 4th year, 90.1% of the 5th year and 88.2% of last year medical students were willing to perform CPR in the other unknown victims scenarios.

**Discussion and Conclusions:** Fourth-year medical students were less willing to perform CPR compared with the senior years. One important reason was the lesser knowledge of BLS and ACLS as they will be taught in the 5th and 6th year. Lack of basic skills and knowledge further affected the confidence in handling victims. Furthermore, we also found that gender, a fear of disease transmission as well as panic and fear of causing further harm were determinants of the willingness to perform CPR.

**Take-home Messages:** This study shows that there were multiple factors that contributed to the reluctance of Thai medical students to perform out-of-hospital CPR, most of them were modifiable, therefore, effort should be put into correcting these factors to improve the willingness to perform CPR.

## #9JJ Posters - Clinical Teaching 2

9JJ04 (1108)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Understanding Continuum of Care for Stroke Patients: Teaching Medical Students using Intermediate Care Model

#### AUTHOR(S):

- Taweesak Sutpasanon, Department of Rehabilitation Medicine, Sawanpracharak Medical Education Center, Thailand (Presenter)
- Apijaree Choosakde, Department of Rehabilitation Medicine, Sawanpracharak Medical Education Center, Thailand
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- Patcharin Intamad, Department of Social Medicine, Sawanpracharak Medical Education Center, Thailand

#### ABSTRACT

**Background:** Lack of a continuum of stroke patient care is an obstacle to navigate the rehabilitation process. Intermediate care, as a transitional phase between discharge and returning home, ensures the continuity in treatment and rehabilitation, aiming to reduce disabilities for the patients with remaining impairments. Teaching medical students using intermediate care model should help them understand the chain of care for stroke patients.

**Summary of Work:** In the Rehabilitation Medicine course of the Sawanpracharak Medical Education Center, after learning stroke rehabilitation in the tertiary hospital, the fifth year medical students experience intermediate care learning through two learning activities: 1) studying the stroke cases that have been referred from the tertiary hospital to enroll intensive rehabilitation program at the community hospital, and 2) visiting the discharged cases after returning home. They experience patient care along with the multidisciplinary team throughout the activities, and reflect their learning issues at the end.

**Summary of Results:** Learning outcome is measured by the questionnaires. Sixteen medical students answered. The first section is an open-ended question to express opinions about what they received. Most of them gave positive comments as followings: learning in real situation provides a venue to gain practical knowledge and skill, competency to work as a team, understanding the chain of care and comprehensive holistic care, becoming more empathetic and more attentive in caring and helping patients. Another section consists of three 5-point Likert scale questions (5 = highest, 1 = lowest) according to the learning design: 1) compatibility with learning objectives  $4.75 \pm 0.43$  points, 2) practical and applicable use  $4.81 \pm 0.53$  points, and 3) attractive style  $4.75 \pm 0.56$  points.

**Discussion and Conclusions:** Teaching intermediate care model enhances medical students to understand the chain of care for stroke patients, activates their learning through authentic holistic patient approach with the multidisciplinary team, and adjusts the attitudes of humanization and beneficence. The learning design is applicable, attractive, and compatible with the learning objectives.

**Take-home Messages:** Intermediate care learning helps medical students to understand the continuum of stroke patient care.

## #9JJ Posters - Clinical Teaching 2

9JJ05 (1184)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The effectiveness of video-assisted self-assessment after flipped classroom in teaching cardiovascular examination to medical students: a pilot teaching program

#### AUTHOR(S):

- Chun-Wei Lee, MaKay Memorial Hospital, Taiwan (Presenter)

#### ABSTRACT

**Background:** Teaching and learning cardiovascular examination for medical students is always a challenging issue. We conducted a pilot teaching program for comparing the effectiveness of conventional didactic lecture and video-assisted self-assessment after Flipped classroom(VSFC).

**Summary of Work:** We divided the fifth year students into 2 groups, one is the conventional control group and the other is the VSFC group. The conventional control group will receive a didactic lecture first then we will bring them to see a real patient. On the other hand the VSFC groups we will provide the same learning material in advance, and then we will first bring them to see a patient, we used video to record the whole process of the physical examination following group discussion. Every student will review their own video and try to teach another student about cardiovascular examination. We compared the learning results of both groups. A clinical teacher monitored the tasks. The students gave feedback anonymously. Knowledge on an implementation of cardiovascular examination was assessed in the final examination.

**Summary of Results:** The feedback was positive, emphasizing the benefits of VSFC in combining theory and practical steps to approach cardiovascular examination. The results of the written summative examination item were better and excellent in the VSFC group.

**Discussion and Conclusions:** VSFC seems to be a suitable method to combine theoretical understanding and practical steps to approach cardiovascular examination. During the process of reviewing their own video and teaching another student, students could learn things in a different way. Compared to conventional didactic lectures, medical students felt that VSFC is effective as a teaching tool. They also felt more impressive and confident in future cardiovascular examination. VSFC is shown to be better than the conventional didactic lecture in this pilot program in teaching cardiovascular examination. Medical students felt more satisfied and confident in dealing with cardiovascular examination.

**Take-home Messages:** VSFC has shown to be successful as a novel tool for teaching cardiovascular examination. It was well received by medical students as a teaching method and effective in learning physical examination. It can be incorporated into routine teaching if proven successful in a larger cohort.

## #9JJ Posters - Clinical Teaching 2

9JJ06 (1953)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The reflections on the health equity of migrant workers in Taiwan by medical students participating in service learning

#### AUTHOR(S):

- Hsin-Tien Lee, National Defense Medical Center, Taiwan (Presenter)
- Shih-Chung Huang, Kaohsiung Armed Force General Hospital, Taiwan
- Yan-Di Chang, National Defense Medical Center, Taiwan
- Yaw-Wen Chang, Tri-Service General Hospital, National Defense Medical Center, Taiwan
- Wen-Hui Fang, Tri-Service General Hospital, National Defense medical Center, Taiwan

#### ABSTRACT

**Background:** Migrant workers in Taiwan, mostly from Southeast Asia and China, are changing the society in many different ways including medical system and medical service. They are at high risk of experiencing health inequity and injustice which should be addressed in medical education. The purpose of this study was to explore the reflections that medical students developed while participating in migrant worker issue (MWI) volunteering activities.

**Summary of Work:** The content of the MWI volunteer group included weekly basis of Indonesian language lessons, reading groups, issue-oriented speeches, visiting migrant workers and providing books for migrant workers. The members of MWI volunteer group ranged from year one to year six and the duration of participation ranged from one to three years. Six clinical and preclinical students from the migrant issue volunteer group were invited. A semi-structured interview was used to collect their experiences with migrant workers and reflections on these issues. A general inductive method was used to identify themes from interview data.

**Summary of Results:** Six major themes emerged. 1) Health equity should be addressed in medical education. 2) Service-learning should be accompanied by more autonomy and critical thinking. 3) Medical services are often unmet with immigrant workers' needs. 4) Broadened imagination on future planning. 5) Reflections on health care system. 6) Established personal identity and value with developing sensitivity to understand others'.

**Discussion and Conclusions:** Participation in MWI allowed medical students to understand the situation of migrant workers in Taiwan, identified the barriers between migrant workers and our existing health care system, find solutions to tackle the overlook and often unmet needs of migrants workers, and realize that the education and awareness of health equity in Taiwan should be improved. The participation of MWI also inspired students to identify and reflect on the value and defect of our medical education, service-learning program, health care system and our own mindset.

**Take-home Messages:** Educators need to consider health equity as an important lesson that all medical students should learn and practice. Creating an environment for students to do social participation with autonomy exercises a powerful influence on students' learning process.

## #9JJ Posters - Clinical Teaching 2

9JJ07 (1940)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Transforming Postgraduate and Undergraduate Clinical Medical Education: Optimising the Delivery of the Teaching on the Run Module with Social Media Implementation

#### AUTHOR(S):

- Chih Cheng Hsiao, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University College of Medicine, Taiwan (Presenter)
- Yu Ting Hsiao, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- Yu Hsuan Hsiao, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** Teaching on the run (TOTR) is a useful model bringing great promise to helping clinical teachers plan for teaching in clinical settings and provide effective feedback and learner support. However, it is yet to be explored whether implementation of social media in TOTR enhances students' learning through easy accessibility of medical knowledge and immediate availability of feedback from teachers. This study was conducted to assess the effectiveness of using social media including LINE and Youtube in the TOTR module to uncover innovative strategies in medical education.

**Summary of Work:** The curriculum was composed of a 2-week course for learning pediatric anemia. Postgraduate year students and interns that rotated to the pediatrics hematology department were selected for this study. The learning unit was comprised of pre-test, viewing instructional videos on the topic of anemia on Youtube, post-test, microteaching and a feedback questionnaire. Learning outcomes were assessed using pre-test and post-test for each student before and after TOTR with social media implementation respectively. Students' perceptions were recorded using a feedback questionnaire on a 5-point Likert scale.

**Summary of Results:** There were 12 students enrolled in our pediatric TOTR module. According to the results of the paired sample t-test, the average scores of the pre-test and the post-test increased significantly from  $36.67 \pm 8.88$  to  $79.17 \pm 9.96$  ( $P < 0.001$ ). The average normalized gain for the entire module was 0.671 (67.1). Regarding the effectiveness of LINE and Youtube in our TOTR module, the overall results of interest, motivation, instant feedback and effectiveness were strongly positive, with total scores ranging between 4 and 5.

**Discussion and Conclusions:** Our modified TOTR program can assist in constructive teaching plan development and provide instant feedback for students. By integrating social media into the TOTR module, medical knowledge can be immediately acquired and understood, as learners are able to work with teachers to analyze the information anywhere and anytime.

**Take-home Messages:** New technological innovation by integrating social media in the TOTR module for learning anemia was very effective and well received by the students. We believe that implementing social media in the TOTR model has potential in improving the efficacy of addressing learning gaps and optimizing teaching in clinical settings.



## #9JJ Posters - Clinical Teaching 2

9JJ08 (91)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Factors influencing the nursing core competencies of students at clinical practice

#### AUTHOR(S):

- Shiah Lian Chen, National Taichung University of Science and Technology, Taiwan (Presenter)
- Jui Yu Jao, Cheng Ching General Hospital, Taiwan

#### ABSTRACT

**Background:** Nursing practicum is an essential link allowing students to apply what they have learned in the classroom to clinical real situations. The purpose of this study was to investigate the factors affecting the core competence of nursing students.

**Summary of Work:** The study was a cross-sectional and correlation research design. The structural questionnaires, including the Competency Inventory of Nursing Students, the Teaching Competence of Nursing Instructor, the Student Evaluation of Clinical Education Environment and the Level of Reflective Thinking, were used for data collection. A purposive sample was recruited from two universities in central Taiwan. Those senior students who had completed their last internship were invited to participate in the study. A total of 270 samples completed the questionnaires.

**Summary of Results:** The highest rated competencies included, in order, ethical responsibility, caring, lifelong learning, general clinical skills, critical thinking reasoning and clinical biomedical science.. The score percentage of the total core competence was 85.13%, and the subscale scores ranged between 79% and 89%. Statistically significant differences were noted between program type, career planning and the total score of core competency. Core competency was significantly and positively correlated with clinical teaching, teaching environment, reflective thinking, and grade of the last semeste ( $r = 0.24-0.39$ ). The findings of multiple regression analysis showed that the factors that could predict core competence were habitual action, reflection, learning opportunity, teaching commitment and interest. The five variables can explain 31% of the total variance of core competence. Factors could predict the subscale competencies were learning opportunities, followed by reflection, habitual activities, facilitating learning, and understanding. These variables could explain 21 to 32% of the total variance of the competency subscale scores.

**Discussion and Conclusions:** The results of the study revealed the significant influence of clinical teaching environment and the teaching behavior on students learning outcomes.

**Take-home Messages:** Factors consistently affecting the core competence and its subscale scores were learning opportunity and levels of reflective thinking. These imply nursing as a practice-based and reflective profession. Planning various learning activities and facilitating student learning in clinical settings may help students developing competencies meeting future challenges.

## #9JJ Posters - Clinical Teaching 2

9JJ09 (3309)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Exposure and perception of 6th year Portuguese medical students to core clinical skills

#### AUTHOR(S):

- **Carolina Caminata, ANEM- Associação Nacional de Estudantes de Medicina, Portugal (Presenter)**
- Fátia Freitas, Medical Students' National Association, Portugal
- Carlos Mendonça, ANEM- Associação Nacional de Estudantes de Medicina, Portugal
- Vasco Mendes, ANEM- Associação Nacional de Estudantes de Medicina, Portugal
- José Rodrigues, Faculty of Medicine of Lisbon Students' Association, Portugal
- António Velha, Faculty of Medicine of Lisbon Students' Association, Portugal

#### ABSTRACT

**Background:** A growing number of graduated doctors in Portugal are providing general healthcare without having completed their postgraduate training, although there's no evidence of adequate preparation for that purpose. Our objective was to analyse core skills of portuguese medical students in their final year of studies regarding their exposure and perception amongst six domains of clinical practice and learning outcomes, thus assessing their fitness for clinical practice.

**Summary of Work:** Seventy-one clinical skills were grouped in six domains based on required specialities in Transition Year, national and international bibliography and portuguese Medical Schools' curricula: Transversal Skills, Internal Medicine, Surgery, Pediatrics, General and Familiar Medicine and Administrative Procedures' Skills. We asked 563 students about their Exposure and Perception (Perceived Competence) Level for each skill using a crescent Likert scale (0 to 4) and their answers were weighted accordingly to the students population of each Medical School.

**Summary of Results:** The Transversal Skills display the highest Level of Exposure ( $\bar{u}=3,39$ ) and Perception ( $\bar{u}=3,23$ ). Pediatrics Skills are moderately high concerning both Exposure ( $\bar{u}=2,98$ ) and Perception ( $\bar{u}=2,88$ ) levels.

Internal Medicine has the lowest Level of Exposure ( $\bar{u}=2,11$ ) and Perception ( $\bar{u}=1,67$ ). Surgical Skills express low Level of Exposure ( $\bar{u}=2,26$ ) and Perception ( $\bar{u}=2,03$ ). Skills related to Administrative Procedures show reduced Level of Exposure ( $\bar{u}=2,41$ ) and Perception ( $\bar{u}=2,29$ ).

General and Familiar Medicine Skills show a high Level of Exposure ( $\bar{u}=3,05$ ), but exhibit the second lowest Level of Perception ( $\bar{u}=2,01$ ).

**Discussion and Conclusions:** Portuguese Medical Students have high performances in Pediatrics and Transversal Skills, unlike Internal Medicine, Surgery, Administrative Procedures and General and Familiar Medicine Skills. Furthermore, Transversal Skills, Internal Medicine and General and Familiar Medicine represent the majority of general healthcare providing skills while Administrative Procedures are related to every medical practice and Medical Students appear to have a severe lack of these.

**Take-home Messages:** Not all Medical Schools are providing training in clinical skills at a sufficient level of exposure, and medical students are not perceiving them adequately. Portuguese Medical Education Institutions and the portuguese Government ought to reshape and rethink medical teaching in order for their learning outcomes to meet the portuguese healthcare system demands.

## #9JJ Posters - Clinical Teaching 2

9JJ10 (2461)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Comparing the Clinical Skills of Medical Students between Different Training Programs in China

#### AUTHOR(S):

- Shih-Chieh Liao, China Medical University, China (Presenter)
- Gui-Chang Pan, The Sixth Affiliated Hospital of Guangzhou Medical University, China

#### ABSTRACT

**Background:** In 2009, China proposed a medical reform policy aiming to strengthen grassroots medical care and reduce waste of and shortages in medical resources. The policy aims to provide community hospitals with well-qualified general practitioners rather than primarily staffing these medical facilities with early-career physicians. To do so, China improve their primary physician training systems: a three-year program to train general practitioners at community hospitals and a five-year degree to train medical specialists at medical centres. In 2011, China began to implement stronger their medical postgraduate training programs. This study examines differences in clinical skills among postgraduate trainee from the two major physician training systems.

**Summary of Work:** Participants included 57 postgraduate year 2 trainee (PGY-2) physicians from the Sixth Affiliated Hospital of Guangzhou Medical University in 2017. Twenty-two (38.6%) were general practitioners and 35 (61.4%) were specialist doctors. This assessment includes four stations: abdominocentesis, tracheal intubation, debridement suturing, and thoracentesis. Each station is graded using a checklist and global rating scales.

**Summary of Results:** In global scores, general practitioners had significantly higher scores in abdominocentesis (4.32 vs. 3.29,  $p < 0.01$ ) and tracheal intubation (3.27 vs. 2.34,  $p < 0.01$ ) than specialist doctors, but specialist doctors had a significantly higher score was in debridement suturing (3.57 vs. 2.50,  $p < 0.01$ ) than general practitioners. In checklist scores, general practitioners had significantly higher scores in tracheal intubation (75.33 vs. 58.82,  $p < 0.01$ ) than specialist doctors.

**Discussion and Conclusions:** This study has two major findings: (1) general practitioners are familiar with basic and commonly used clinical skills while specialist doctors are more familiar with relatively complex clinical procedures; And, (2) general practitioners have excellent basic skills and are more than capable of improving the efficiency of grassroots medical services.

**Take-home Messages:** According to the theory of adult learning, general practitioners and specialist doctors are independent and self-directed in their learning, focusing on study integrated with their daily work needs and real-time application of knowledge, and their learning tends to be centred around clinical problems. The results indicates that and clinical need affects learning motivation and then the physician's learning outcomes.

## #9JJ Posters - Clinical Teaching 2

9JJ11 (1959)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Effectiveness of Blended Learning Approach on Risk Management for Nursing Students

#### AUTHOR(S):

- Zarina Begum Abdul Rahman, Tan Tock Seng Hospital, Singapore (Presenter)
- Hnin Nwe Oo, Tan Tock Seng Hospital, Singapore

#### ABSTRACT

**Background:** Tan Tock Seng Hospital (TTSH) Clinical Education Department is a stalwart user of conventional teaching pedagogies involving didactic classroom teaching of nursing students. Clinical Educators developed a blended learning orientation programme catering to digital-age nursing students' learning styles and real contexts.

**Summary of Work:** A blended learning pedagogy aimed at creating instructional strategies for nursing students during their clinical practicum orientation was adopted. Nursing students who underwent their clinical practicum in TTSH for the first time had to undergo the "New Nursing Student Orientation" programme. The programme consists of five modules classified under risk management. Examples of risk management topics includes pressure ulcer, fall and oral hygiene. It is mandatory for all nursing students to complete the e-learning prior their clinical practicum. A four-hour workshop facilitated by the clinical educators was conducted on the first day of the clinical practicum. This workshop was conducted to evaluate the students' understanding and application of theory to practice. Upon completion of each e-learning module, a compulsory post module quiz was conducted to evaluate the students' understanding. At the end of clinical practicum, the students complete a survey comprising of 14 likert scale questions, to elicit their feedback on the effectiveness of this blended programme.

**Summary of Results:** A total of 173 nursing students participated in this survey. 98.8% students agreed that the course was effective in reaching their learning objectives; 98.3% agreed that the content covered was sufficient; and 98.3% agreed that the quizzes effectively tested the material presented in the programme.

**Discussion and Conclusions:** This blended learning approach provided nursing students with the learning context that caters to their various learning styles. At the end of the clinical practicum, the approach of applying blended learning proved to be an effective learning pedagogy, offering a learning that is scalable for a greater number of learners. Blended learning offers digital-age learners with streamlined and interactive learning options as compared to traditional teaching pedagogies.

**Take-home Messages:** Clinical Educators should incorporate up to date and evidence-based teaching pedagogies for nursing students, catering to various learning styles.

## #9JJ Posters - Clinical Teaching 2

9JJ12 (1024)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning obstacles in handling Psychiatric patients

#### AUTHOR(S):

- Chonakarn Niyomthong, Surin Medical Education Center, Suranaree University of Technology, Thailand (Presenter)
- Pakarat Sangkla, Surin Medical Education Center, Suranaree University of Technology, Thailand
- Mantapond Ittarat, Surin Medical Education Center, Suranaree University of Technology, Thailand

#### ABSTRACT

**Background:** During the clinical years in Surin Hospital, medical students especially extern and intern are experienced many psychiatric patients. However, management by either post grad or undergrad are hesitated. The purpose of this study was to acknowledge factors affect psychiatric patients' management's confidence.

**Summary of Work:** The descriptive-cross sectional study was conducted in the Surin Medical Education Center, Thailand. Thirty-five medical students and twenty-two interns were included. Research questionnaire consist of 20 multiple checklist questions. This study was analyzed frequency of psychiatric patients they were experienced, confidence in handling patients and factors that affect their management's confidence.

**Summary of Results:** The average amount of psychiatric patients they were experienced were 1- 3 people in a week, which found the most in Emergency Room, Internal medicine ward and Surgery ward, 43.8%, 35.08%, 14.3% respectively. The top confidence in handling patients was alcohol related disorder (45.4%), however, the least was anxiety disorder (25.7%) for extern group and Mood disorder (41.4%) for intern group. Finally, factors that affects their management's confidence, 92.1% of participants had difficulty to make a diagnosis and treatment, 84.0% hardly managed patients by themselves and 58.2% had no encouragement toward psychiatric patients.

**Discussion and Conclusions:** Although psychiatric patients found very common in Surin Hospital, that both extern and intern were frequently experience many cases. However, basic Psychiatry they had learnt during fourth year or fifth year were missed. Lack of basic skills and knowledge were altered the confidence in handling psychiatric patients. Furthermore, attitude toward psychiatric patients was also an important factor that block the students to keen on learning.

**Take-home Messages:** Restoring, recollecting basic Psychiatry and recreating good attitude toward patients are likely to be helpful for post grad and undergrad. Moreover, integrating the knowledge in other major wards is probably brought advantages also.



## #9JJ Posters - Clinical Teaching 2

9JJ13 (1796)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Effect of Using Standardization Lesson Plans with Multiple Teaching Strategies for Post Cardiac Surgery Nursing Care

#### AUTHOR(S):

- Cian-Huei Shih, Buddhist Tzu Chi General Hospital, Taiwan (Presenter)
- Siao-Ya Su, Buddhist Tzu Chi General Hospital, Taiwan
- Wen-Jun Chen, Buddhist Tzu Chi General Hospital, Taiwan
- Shu-Min Peng, Buddhist Tzu Chi General Hospital, Taiwan

#### ABSTRACT

**Background:** The nurse post graduate year 2 (NPGY2) staffs begin to care the cardiac surgery patients in a surgical critical care unit. Researchers investigated the care capacity in the unit. The ability of postoperative critical care of the cardiac surgical patient nursing care showed the worst learning outcome by self-evaluation of NPGY2 staff, owing to ambiguous learning objective and evaluation method.

**Summary of Work:** A total of 20 NPGY2 surgical critical care unit staffs were enrolled. They were randomized to two groups (standardization group N=10, and traditional group N=10). We used the standardization lesson plans with multiple teaching strategies for standardization group for 6 weeks. And traditional group use clinical teaching for 6 weeks. All of participants finished the post cardiac critical care knowledge and skill examination.

**Summary of Results:** Compared with the standardization group and traditional group, the knowledge ability (92.2 vs. 79.7) and skill ability (87.5 vs. 78.0) of post cardiac surgery nursing care were significantly higher in standardization group ( $p < .05$ ).

**Discussion and Conclusions:** The standardization lesson plans with multiple teaching strategies can enhance learning effectiveness of the postoperative cardiac surgery nursing care ( $p < .05$ ). Such teaching strategies can enhance learning effectiveness of postoperative critical care of the cardiac surgical nursing care. Still, it offers a teaching strategy for clinical nursing teachers.

**Take-home Messages:** Be a faculty, How to produce standardization lesson plans about post cardiac surgery critical care? Be a instructor, how to use to the standardization lesson plans and teaching strategies about post cardiac surgery critical care?

## #9JJ Posters - Clinical Teaching 2

9JJ14 (1405)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Effectiveness of Using Multiple Teaching Strategies to Decreasing the Clotting Rate of Artificial Kidney

#### AUTHOR(S):

- Yu-Hui Liu, Department of Nursing, En Chu Kong Hospital, Taiwan (Presenter)
- Yu-Fen Chiu, Department of Nursing, En Chu Kong Hospital, Taiwan
- Pi-Tuan Chan, Department of Nursing, En Chu Kong Hospital, Taiwan

#### ABSTRACT

**Background:** Hemodialysis is the major therapeutic method for uremic patients. In the process of hemodialysis, if coagulation of artificial kidney occurs, it will not only aggravate the patients anemia, reduce the quality of dialysis, but also increase the cost of hospital and waste of manpower. Our unit is hemodialysis room in a regional teaching hospital. The most common accident in our center is that coagulation of artificial kidney. The incidence rate increased from 0.79% in 2015 to 1.99% in 2016.

**Summary of Work:** The targets of the program are 25 nursing staff in the dialysis center, we want to explore whether it is possible to stimulate learning motivation and enhance learning outcomes by multiple teaching strategies, thereby improving ability of nursing care. This study took sample and observe by cross-sectional research, we used multiple teaching strategies, including (1) planning real-machine operation and simulation of clinical situation, and designing memory pithy formula (2) holding a series of courses for 3 hours and clinical case discussion (3) revising technical operation standards of hemodialysis (4) making digital learning video disc of heparin-free hemodialysis (5) implementing audit and monitoring.

**Summary of Results:** Regarding these strategies, we gained effective outcomes as follows: (1) After the implement of this program, the incidence dropped from 1.99% to 0.62% and remained at 0.52% in 2018, and the expense that we saved was 70,545NT dollars; (2) The correct rate of care recognition to hemodialysis increased from 66.5% to 91.0%; the correct rate of technical operation increased from 69.4% to 91.3%, and the overall teaching satisfaction rate reached 93.7%.

**Discussion and Conclusions:** Hence, using the model of multi teaching strategies enhances quality of dialysis and nursing services, that can be used as a reference for the education and training of nursing staff in the future.

## #9JJ Posters - Clinical Teaching 2

9JJ15 (2488)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Implementation of bilingual large-scale basic life support training for medical, nursing and healthcare students in partnership with regional fire department

#### AUTHOR(S):

- Gen Kobayashi, School of Medicine, International University of Health and Welfare, Japan (Presenter)
- Toshiyuki Naka, School of Medicine, International University of Health and Welfare, Japan
- Ryota Sakurai, School of Medicine, International University of Health and Welfare, Japan
- Kazunobu Ishikawa, School of Medicine, International University of Health and Welfare, Japan

#### ABSTRACT

**Background:** Basic Life Support (BLS) is one of the fundamental skills for students in healthcare. Our school located near the Narita International Airport has opened the departments of medicine, nursing and healthcare in 2017. We have installed a huge Simulation Center for Outstanding Professional Education (SCOPE), which spaces over 5,300 m<sup>2</sup>, as our central feature.

**Summary of Work:** Our open space training room for BLS has 450 m<sup>2</sup>, in which we can run trainings with 48 CPR (cardiac pulmonary resuscitation) training mannequins (3x16 row). To secure a sufficient space for CPR training, we assign three learners to each mannequin, which enable to train 144 learners at a time. To care for a cardiac arrest victim in an international airport or abroad, we utilize an AED (automated external defibrillator) trainer with both English and Japanese languages.

**Summary of Results:** In our first year, we had bilingual BLS training for all of the medical students. We also held training sessions for students in other departments and faculties on weekends. We made three BLS courses: 1. Half day for adult BLS, 2. All-day for adult and pediatric BLS, 3. Three days for BLS instructor. Up to the present, 616 students and 33 teachers finished either half day or all-day courses. We have 93 BLS instructors on campus.

**Discussion and Conclusions:** We have established BLS training system, in which almost all students acquire BLS skills in early school year in partnership with regional fire department. To fulfill these activities, we have planned to have an excellent simulation center, sufficient numbers of CPR training mannequins and AED trainers with multiple languages. We have also build a cooperative framework of the teachers in three departments.

**Take-home Messages:** We have implemented of bilingual large-scale BLS training for medical, nursing and healthcare students in partnership with regional fire department.

## #9JJ Posters - Clinical Teaching 2

9JJ16 (391)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Iceberg Model of Blood and Body Fluid Exposure Reporting Among the Medical Students

#### AUTHOR(S):

- Pornpimon Kasemsook, Buddhachinaraj Hospital Medical Education Center, Thailand (Presenter)
- Orawan Chaiyamahapruk, Buddhachinaraj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Percutaneous and mucocutaneous exposures to blood and other body fluids (BBF) are not only occupational hazards of health care workers but also the medical students who have underdeveloped practical skills. These injuries take them at risk of blood-borne infections including HBV, HCV and HIV. Since simulation-based training program was used to promote student's knowledge and skills, the number of BBF exposures reported to hospital infection control service (HICS) between academic year 2016 and 2017 was 21 cases, decreased almost twice compared with previous years. This study aimed to determine whether a simulation-based training reduced exposures or exposures were underreported.

**Summary of Work:** A cross-sectional study, questionnaire-based, the 4th - 6th year clinical medical students from Buddhachinaraj hospital in academic year 2018 were surveyed histories of needlestick or sharp injuries and non-percutaneous exposure to BBF. The number of reportings and non-reportings to HICS including reasons was explored during past twelve months.

**Summary of Results:** 118(78.1%) questionnaires were completed. 78(66.1%) respondents were non-percutaneous exposed to blood, 51(43.2%) were exposed to other body fluid and 23(19.4%) experienced blood percutaneous exposures during the previous twelve months. However, there was only 19.1% reported to HICS after injuries while 80.9 % did not. Self-considered low risk of transmission (71.5%) was the most common reason for non-reporting.

**Discussion and Conclusions:** The number of our surveyed BBF exposures was greatly higher than the HICS's report, moreover, the underreported BBF exposures were extremely higher than the reported ones. It was as if "tip of the iceberg" seen only a small part of what is really a bigger problem. From this point, the underreporting should be solved immediately so that the repeated BBF exposures will reduce if the unexplored causes, the hidden part of the iceberg, are explored and corrected.

**Take-home Messages:** The more underreporting happens, the more missed opportunity for post-exposure prophylaxis and cause of injuries identification occurs. For this reason, antibody status awareness and complete coverage of hepatitis B vaccination should be achieved early in medical training while a culture of BBF exposure reporting should be created.

## #9JJ Posters - Clinical Teaching 2

9JJ17 (1797)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Social accountability of medical students at Vachira Phuket Medical Center after participation in social activities

#### AUTHOR(S):

- Pornpirun Leeyangyuen, Vachira Phuket Medical Education Center, Walailak University, Thailand (Presenter)
- Akkawan Tanthien, Vachira Phuket Medical Education Center, Walailak University, Thailand
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- Supachai Saingtong, Vachira Phuket Medical Education Center, Walailak University, Thailand

#### ABSTRACT

**Background:** One of the moral values in which every person especially health care professionals ought to possess is social accountability. For medical students, it is important to understand and help deal with social problems. As one of the major health problems in Thailand is teenage pregnancy, this study aims to find out whether a project on educating high school students on teenage pregnancy prevention has effects on medical students level of appreciation, self-value, and social accountability.

**Summary of Work:** Questionnaires were distributed to 20 students studying in 4th and 5th year at Vachiraphuket education center. The participants were asked to provide information on their past social participation during high school as well as preclinic and clinic. They were also asked to provide their level of social accountability before and after conducting educational project on teenage pregnancy prevention. To conduct the project, 20 medical students were divided into small groups so that they could effectively approach 500 students in 8th Grade at Satree Phuket School. Personal data were then collected and analysed by adopting one-way ANOVA ( $p = .05$ ).

**Summary of Results:** Results showed that 85% of the participants were involved in social activities during high school while all of the participants were engaged in social activities during preclinic and clinic (100%). However, participants who were leaders in social activities during high school, preclinic, and clinic comprised of only 10, 25, and 10% respectively. After conducting the educational project on teenage pregnancy prevention, all participants conveyed that they wished to join other social activities (100%). The group which portrayed to be prospective leaders in other social activities were female medical students ( $<0.01$ ) studying in 4th year ( $<0.05$ ). In addition, the educational project positively affects participants' level of appreciation ( $p < 0.01$ ), self-value ( $p < 0.05$ ), and social accountability ( $<0.05$ ).

**Discussion and Conclusions:** The medical students' participation in teenage pregnancy prevention in high school students project increased medical students level of appreciation, self-value, and social accountability. The project also encouraged medical students to join the other social activities as both common participants and leaders.

**Take-home Messages:** Cultivation of morality and social accountability in medical students is important to develop students' mindset to be generous physicians in the future.



## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK01 (1008)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Correlation between medical knowledge and belief in alternative medicine

#### AUTHOR(S):

- Erich Eder, Sigmund Freud University, Medical School, Austria (Presenter)
- Stephanie J. Eder, University of Vienna, Department of Basic Psychological Research and Research Methods, Austria
- Sebastian G. Mustafa, Sigmund Freud University, Medical School, Austria
- Krista Federspiel, Gesellschaft für kritisches Denken, Austria

#### ABSTRACT

**Background:** The market for homeopathic and anthroposophic medicine in the EU is valued at  $\approx 1.24$  billion per year, and growing by 6.5% a year. The reasons for this success are still unresolved. Based on previous work, we hypothesised that individuals with less scientific education are more likely to believe in alternative medicine and paranormal claims.

**Summary of Work:** We examined 650 high school students aged 14 to 19 before their university entrance diploma in Vienna. Students were given a questionnaire with 42 statements on a seven-point Likert scale. The randomly mixed statements included the revised paranormal belief scale and 21 statements on different areas of alternative medicine. 15 additional questions on bio-medical knowledge were related to the secondary school curriculum, on physiology, pathology, functional anatomy, sex education, health-related behaviour, and genetics. The questionnaire was pre-tested in 47 students aged 16 to 17, and modified according to results and students' feedback. Additionally, we provided the same questionnaire to a cohort we assumed to have a more naturalistic worldview: 400 university freshmen committed to study medicine, at the beginning of the first undergraduate course. Correlation and regression analyses were used to test the relationships between different variables. Differences between the two cohorts were tested with ANOVA.

**Summary of Results:** Medical students showed lower belief in alternative medicine and paranormal claims than high school students. Medical knowledge correlated significantly negatively with belief in alternative medicine in high school students, but not in medical students. In both cohorts, belief in alternative medicine correlates significantly positively with paranormal belief.

**Discussion and Conclusions:** Belief in alternative medicine seems to be conceptually close to paranormal belief, which is plausible as the effects of alternative medicine are usually explained by supernatural mechanisms. It seems that their intrinsic interest of medical students in science reduces their belief in alternative medicine and the paranormal, as compared to high school students. Scientific thinking and biological knowledge are important resources to counter alternative medicine claims, and education to sceptical thinking should start long before career decisions are made.

**Take-home Messages:** (1) Bio-medical knowledge correlates negatively with belief in alternative medicine. (2) Paranormal belief correlates positively with belief in alternative medicine.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK02 (2242)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### A Novel Medic to Physician Assistant Pathway

#### AUTHOR(S):

- Gail Curtis, Wake Forest School of Medicine, Department of PA Studies, USA (Presenter)
- Carol Hildebrandt, Wake Forest School of Medicine, Department of PA Studies, USA
- Ian Smith, Wake Forest School of Medicine, Department of PA Studies, USA

#### ABSTRACT

**Background:** The Physician Assistant (PA) profession in the USA was birthed from the military and created to help alleviate the shortage of primary care providers. Using fast-track training curriculum developed to increase supply of physicians during WWII, military medics with skills but no credentials to practice in civilian life were recruited as the first PAs. US Special Operations Command (SOCM) medics are a subset of highly trained and specialized individuals who are extremely valuable to the military. Our pilot program centered on two goals, create active duty PA training opportunities and retain SOCM in the military.

**Summary of Work:** The Medic to PA program (MPAP) was developed by Wake Forest PA Program in conjunction with Carolinas Health Center. MPAP is designed to accommodate participation in the PA program while the SCOM remains on active duty military. The didactic year of training remains unchanged, but the clinical phase is extended to allow interspersed deployments. Upon completion of the MPAP, the SOCM returns to military service. When service obligation is complete the SOCM can seamlessly transition to civilian PA practice.

**Summary of Results:** This pilot program was presented to the Department of Defense and approved with funding in the 2019 budget cycle. DOD approval and funding allows for expansion of the program to other PA schools and more SOCM. This program can now be expanded to other PA programs across the USA.

**Discussion and Conclusions:** MPAP enhances the SOCM skills while retaining these senior operators in service. Further, MPAP should be explored for translation to other forms of higher medical education programs around the globe. Medical personnel from across Europe, who have specialized training in battlefield medicine, are perfect candidates for such programs.

**Take-home Messages:** Medical programs such as MPAP: - make generalist medical training available to currently active military - provide critical support to SOCM teams in the field - support military in their search for a post-service career - increase the worldwide number of general practitioners.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK03 (2588)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Education Systems Worldwide: an IFMSA report

#### AUTHOR(S):

- Marouane Amzil, International Federation of Medical Students Associations, Morocco (Presenter)
- Artur Carvalho, International Federation of Medical Students Associations, Brazil

#### ABSTRACT

**Background:** The International Federation of Medical Students Associations (IFMSA) has been active since 1952 in meaningfully involving medical students worldwide within their respective medical education systems. Understanding its structure and physiology on a global scale was the motive to identify the main challenges and stakes in Medical Education and to develop global strategies to solve them.

**Summary of Work:** IFMSA has conducted a survey to outline how Medical Education Systems are formulated and to comprehend the diversity of medical curricula in the world.

**Summary of Results:** 371 responses were collected, covering medical schools from 83 countries. A great part (72.2%) belong to the public sector. When it comes to curricula duration, most medical schools (65%) has a 6 years education. Basic sciences are represented in 90% of medical schools' pre-clinical curricula, whose teaching methodologies are mainly traditional courses (77.1%). As for the clinical training, 97% of subjects were mandatory, and use a combination of evaluation methods (written, oral and practical exams) to assess medical students in at least 29% of cases.

**Discussion and Conclusions:** The survey has enabled to highlight some medical education issues medical schools and students are facing, such as traditional teaching courses dominating the teaching methodologies and practical skills are not enough assessed. This survey is not meant to assess the quality of the educational institutions but rather to create a basis to discuss the medical education systems around the world.

**Take-home Messages:** Understanding Medical Education Systems worldwide is a very important step towards developing a global approach towards engaging students worldwide in their respective medical education systems, through a meaningful participation in developing their curricula. IFMSA has produced a detailed report to thoroughly present an overview of medical education systems worldwide, as a ground to develop its medical education approach to its global priorities.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK04 (1252)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### An approach to complexity at the intersection of education and health care

#### AUTHOR(S):

- Lisa Graves, Western Michigan University Homer Stryker M.D. School of Medicine, USA  
(Presenter)
- Karen Horneffer-Gintner, Western Michigan University Homer Stryker M.D. School of Medicine, USA
- Rich Daudert, Western Michigan University Homer Stryker M.D. School of Medicine, USA

#### ABSTRACT

**Background:** Medical education leaders face challenges in multiple settings and at various levels of complexity. Medical education is situated at the intersection of two complex systems-education and healthcare. Human System Dynamics (HSD) is an approach to complex systems focusing on applying principles of complexity science and chaos theory to cope with volatile, uncertain, complex, and ambiguous (VUCA) situations. Through defining sticky issues and wicked problems, HSD approaches focuses on praxis - the intersection of theory and practice of leadership.

**Summary of Work:** Using a case study approach, we will share the curriculum of an institutional training program using HSD approaches over the course of 12 months.

**Summary of Results:** Applying HSD processes including inquiry and adaptive action were used to address medical education challenges at multiple levels of the learning continuum. Examples specific to undergraduate medical education, faculty governance and faculty development are described.

**Discussion and Conclusions:** Education and healthcare are both complex systems. Medical education straddles these two complex systems. New paradigms such as HSD are required to address the challenges in medical education and specifically in faculty affairs. This case study provides an introduction to a new approach and practical tools aligned with the challenges of medical education.

**Take-home Messages:** This case study will describe how the use of complexity science and chaos can inform the challenges in medical education.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK05 (2070)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### How effective is Helping Babies Breathe training for practitioners delivering babies in non-facility settings?

#### AUTHOR(S):

- Grace Mupanemunda, University of Bristol, UK (Presenter)

#### ABSTRACT

**Background:** Birth asphyxia before, during or immediately after birth is a leading cause of early neonatal mortality worldwide. In addition to the high number of stillbirths due to birth asphyxia, many preventable neonatal deaths occur in babies presumed dead at birth who may have survived with clinical intervention. Neonatal resuscitation is a simple and effective intervention that can reduce neonatal mortality in asphyxiated newborns. Helping Babies Breathe is a training programme developed by the American Association of Paediatrics that teaches the theory and skills required to deliver effective neonatal resuscitation and essential newborn care especially in low resource environments. This programme has been shown to improve neonatal outcomes, specifically reducing neonatal mortality and stillbirth rates.

**Summary of Work:** Data was obtained from a mixed questionnaire completed by eleven practitioners. These practitioners and trainers were recruited via email and participant selection was made on an opt-in basis. The respondents' details were obtained from a register of HBB practitioners. Data from five participants out of the 16 who responded was not used as their data did not meet the criteria. The qualitative data obtained was organised into themes and then analysed in order to determine how far the training in non-facility settings was beneficial.

**Summary of Results:** Questionnaire results from 11 respondents were included in this study. All respondents reported a benefit to implementing the training for non-facility deliveries. Where outcomes were measured, improvement was seen, both in obstetric practices and neonatal outcomes. Trained practitioners reported increased knowledge and improved confidence in initiating neonatal resuscitation, including keeping the baby dry and warm.

**Discussion and Conclusions:** Many women in low income countries still choose to give birth outside of medical facilities, but still require birth attendants that can provide adequate obstetric care and effective resuscitation if required. Helping Babies Breathe training is beneficial for non-facility births in low income countries and should be advocated for in these settings, as it allows women to deliver safely outside of facility environments.

**Take-home Messages:** Training birth attendants in neonatal resuscitation is an effective way to improve obstetric practice and see better neonatal outcomes in low income countries.



## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KKo6 (1558)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Preferred Learning Approaches and Teaching Methodologies of Medical Students from Different Admission Channels

#### AUTHOR(S):

- Hin Ching Chow, Faculty of Medicine, The Chinese University of Hong Kong, China (Presenter)
- Constance Scarlett Yim, Faculty of Medicine, The Chinese University of Hong Kong, China
- Shui Shan Isabel Hwang, School of Biomedical Sciences, The Chinese University of Hong Kong, China

#### ABSTRACT

**Background:** The Hong Kong Diploma and Secondary Education ('DSE') and the International Baccalaureate ('IB') represent the two predominant secondary education curricula taken by undergraduate medical students at the Chinese University of Hong Kong (CUHK). Dissimilarities in pre-university educational experience between these two groups of students have long posed significant challenges for teaching staff to formulate effective teaching methodologies catering for both groups.

**Summary of Work:** A survey was conducted to collect information on students' studying methods and opinions on medical learning, as well as evaluation of specific teaching strategies employed by particular lecturers at CUHK. As Year 2 students ourselves, the learning experiences inquired were restricted to Year 2 courses for better context and comparison. 102 valid responses were received; 52 were students admitted from DSE and 32 were from IB, with the rest from various relatively minor admission channels.

**Summary of Results:** Our analysis suggests that students admitted from DSE generally prefer lecture information to be presented in a linear sequence. They also tend to spend more time revisiting class contents before joining group-based dissection practicals. Students from IB, on the other hand, prefer thinking out loud with their peers as part of their learning process. For both groups, clear explanation of the clinical significance of the knowledge taught provides greater incentives to learn, and this holds especially among students from DSE. Regarding knowledge delivery, the majority of either group considers lectures the most direct and effective way of doing so. Also, lecturers who introduce interactive elements in their classes are welcomed by students regardless, as students can more easily recall the contents during revision.

**Discussion and Conclusions:** Systematic effort to investigate learning tendencies of students from different admission channels has been lacking, partly owing to concerns over aggravating segregations between DSE and IB students. With that in mind, in our study we examined not only intergroup differences, but more importantly, similarities in the teaching strategies favoured by both groups. Here, we shed light on the development of CUHK's medical curriculum by identifying viable directions to undertake, including stronger emphasis on clinical relevance and interactivity.

**Take-home Messages:** Exploration of diversity in students tendencies and preferences is imperative in pursuing student-centred learning.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KKo7 (1475)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' participation in Educational Spaces: Is Diversity Really Valued?

#### AUTHOR(S):

- **Olga Matus, University of Concepcion, Chile (Presenter)**
- Sebastian Gonzalez-Brevis, University of Concepcion, Chile
- Cristhian Perez-Villalobos, University of Concepcion, Chile
- Camila Espinoza-Parcet, University of Concepcion, Chile
- Peter McColl-Calvo, University Andres Bello, Chile
- Nancy Navarro-Hernandez, University La Frontera, Chile

#### ABSTRACT

**Background:** According to studies, in recent years Higher Education in Chile has been focused on guaranteeing access to students, which has resulted in heterogeneous income profiles. This means that current challenges for institutions include adapting to diverse contexts, ensuring that all students successfully complete their studies. For this, it is important that educational environment guarantees good relations among students, specifically in Health Careers, where interdisciplinary teamwork is important. Objectives: to analyze the relationship between students in contexts of diversity, in health careers. Financed by FONDECYT-CONICYT 1170525.

**Summary of Work:** Qualitative study, based on Strauss&Corbins Grounded Theory(2002). Participants: 10 teachers, 23 students of health careers. Two group-interviews and thirteen semi-structured interviews were conducted. Analysis: constant comparison method, up to axial coding level, using Atlas-ti 7.5.2.

**Summary of Results:** According to interviewees, the relationship between students considers: background (evaluation of the ex-group, characterization of the student), intervening-factors (formative level, type of diversity, instances of participation, privileged positions), action-strategies (adhesion to homogeneous groups, teaching support, institutional support, concealment of diversity), consequences (participation in academic instances, participation in university activities, academic performance, invisibility of diversity), context (situation of diversity and inclusion in Chile and in universities, cultural schemes of discrimination, academic competitiveness, academic demands).

**Discussion and Conclusions:** Health careers are not prepared to address diversity, as they fail to provide learning and participation to all their students. The relationship between students in health careers does not escape this situation. Although in the discourse, students often show themselves to be tolerant of diversity, there are practices that suggest discriminatory treatment of peers who consider themselves to be different. This would lead to various problems of inclusion in the educational context, mainly reducing academic participation, participation in other university instances and academic performance.

**Take-home Messages:** It is important to demystify that educational inclusion is only the work of institutions and teachers. Reflective spaces should be generated that encourage students to analyze their own beliefs and practices towards diversity in health career contexts. This is essential if we consider the impact of the training process on subsequent performance with users, patients and other diverse professionals.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KKo8 (3272)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Advancing Diversity and Inclusion within the Faculty of Medical Sciences, The University of the West Indies, Jamaica

#### AUTHOR(S):

- Tomlin Paul, University of the West Indies, Mona, Jamaica (Presenter)
- Marjan De Bruin, University of the West Indies, Mona, Jamaica
- Sonja KP Williams, University of the West Indies, Mona, Jamaica
- Elva Langott, University of the West Indies, Mona, Jamaica

#### ABSTRACT

**Background:** The University of The West Indies (UWI), Jamaica is currently an under-resourced University, which limits greatly the use of standard interventions for Diversity and Inclusion (D&I). Over the past few years, the advancement of D&I has garnered greater importance to the leadership in the Faculty of Medical Sciences (FMS) at The UWI.

**Summary of Work:** The development of a D&I agenda for the FMS at the UWI, Jamaica is traced within the institutional context, highlighting factors that promoted the development of such an agenda. D&I has been advanced through an interaction of a campus-wide collaborative at the macro and meso levels, catalyzed by the accreditation body.

**Summary of Results:** • The Caribbean Authority for Accreditation of Medicine and other Health Professionals (CAAM-HP) recommends development of diversity related policies and practices in 2016. • FMS creates a D&I policy linking equality and high quality performance of both staff and students, 2017. • FMS invited on a newly established Campus TWG on D&I, charged with developing a strategic approach and a full Equity, Diversity and Inclusion Policy for the Campus. • FMS establishes D&I Sub-Committee (Sept 2017) on the recommendation of the TWG's Dean's Caucus • FMS begins sensitization and promotion of an inclusive approach in academic year 2017/2018 • TWG and FMS begins work on an evolving framework to share priorities between FMS, other Faculties and the wider campus, 2018

**Discussion and Conclusions:** Initiation and progress on a D&I agenda in this seemingly naïve organization depended on an openness to institutional leadership and change with external drivers playing a promoting role. The accreditation agency, university-wide leadership comprising largely of initiatives from the campus technical working group (TWG) and activities within the Faculty all contributed to breaking through isolation to promote horizontal cooperation and sharing instead of competing.

**Take-home Messages:** In this low resource context, with accreditation as a driver, D&I has been advanced through a bottom up (sub-committees and Faculties) as well as top down (influencing senior management) approach.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK09 (948)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Spatial distribution of 1-year international medical students as a marker of intergroup relationships management

#### AUTHOR(S):

- Dmitry Vishniakov, International University of Kyrgyzstan, International School of Medicine, Kyrgyzstan (Presenter)
- Arsen Aidaraliev, International University of Kyrgyzstan, Kyrgyzstan
- Elena Savchenko, International University of Kyrgyzstan, Kyrgyzstan

#### ABSTRACT

**Background:** The social environment in university plays crucial role for adaptation process in first year international medical students. The main goal of the study was to assess students' spatial distribution in a lecture hall as an instrument and tool for intergroup (interethnic/intersex) relationships management.

**Summary of Work:** Design: prospective cohort study. Settings: International University of Kyrgyzstan, International School of Medicine. The spatial distribution of 198 students was recorded, examined visually and measured using aggregation index during the first semester. Social school environment was assessed as amount of intergroup spatial interactions and questionnaire. Perception of spatial segregation was identified using focus groups.

**Summary of Results:** Out of all 56% were Pakistani students, 35% Indian students, 5% students from Maldives and 4% students from other Southeast Asian countries. By the end of the first month of study 3 main ethnic groups and 12 subgroups were formed on the ethnic/geographic, sex and religious ground and had firmed spatial boundaries in a lecture hall. The effect of interventions that targeted different forms of segregation had gradual positive correlation with changes in spatial student's distribution and interaction. However, sudden negative changes in index coincided with a conflict between groups and, on the contrary, two statistically significant sustainable positive changes marked with dissolution of spatial boundaries of 3 main ethnic groups by the end of 3 month and 12 subgroups by the end of 4 month of study that followed by significant amount of interactions and changes in perception of spatial segregation.

**Discussion and Conclusions:** The spatial distribution of students in a lecture hall allowed following the development of intergroup relations in real time, assessed the effect of interventions that targeted different form of segregation, identified unreported conflict between groups and marked threshold of interethnic/intersex group relations among international students

**Take-home Messages:** The development in spatial student's distribution in a lecture hall can be considered as a marker of intergroup relationship management.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK10 (1544)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Residents and physicians hold implicit bias associating ambition with men

#### AUTHOR(S):

- Maud Kramer, Maastricht University, the Netherlands (Presenter)
- Karen Könings, Maastricht University, the Netherlands
- Ide Heyligers, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** An intense feminisation process of the medical profession is taking place. However, women stay underrepresented in academic (leadership) positions and in certain prestigious disciplines (such as surgical fields). Historically stereotyped gender-related prejudices might still influence career aspirations in female residents and physicians. This study investigated gender differences in residents' and physicians' implicit attitudes (unconscious associations or bias) regarding ambition and gender.

**Summary of Work:** Dutch residents (trainees, N = 117) and physicians (supervisors, N = 133), working in residency training settings in seven health care institutions in the South-East of the Netherlands participated in this study. Participants completed an online questionnaire including demographic characteristics and an online Implicit Association Test (IAT), measuring residents' and physicians' implicit attitudes regarding ambition (defined as career and family) and gender (female, male). IAT D-scores range from -2 to +2: positive values indicate a stronger association of ambition with male; negative values indicate a stronger association of ambition with female. We used analysis of variance to test gender differences in residents' and physicians' implicit attitudes.

**Summary of Results:** Both residents and physicians held implicit bias regarding ambition and gender: male gender was associated to career while female gender was associated to family. Gender was weakly related to implicit attitudes: females, mainly female residents, showed a higher implicit bias associating ambition with men compared to their male colleagues.

**Discussion and Conclusions:** We found implicit attitudes, associating ambition with men, in both male and female residents and physicians. Surprisingly, female residents starting their careers during the feminisation process were most strongly biased in associating ambition with men. This might be caused by the predominantly masculine work culture in hospitals, in which female residents' needs might not be fulfilled. As the feminisation process continues, females might need more support during postgraduate medical education (PGME) and their further career aspirations.

**Take-home Messages:** 1. This study creates awareness of residents' and physicians' implicit attitudes associating ambition with men. 2. Supporting female residents in PGME and their further career aspirations is of vital importance, as especially young females experience the highest implicit bias associating ambition with men.



## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK11 (2414)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A Qualitative Study on Medical Students' Development of Cross-cultural Competence and IFMSA Exchange Programs

#### AUTHOR(S):

- Hsiang Yun Ko, Kaohsiung Medical University, Taiwan (Presenter)
- Peih Ying Lu, Kaohsiung Medical University, Taiwan
- Jia Suan Chong, Kaohsiung Medical University, Taiwan

#### ABSTRACT

**Background:** International Federation of Medical Students Association (IFMSA) has run exchange programs for medical students for decades, but few studies have investigated the effectiveness on students' development of cross-cultural competence (CCC) that prepares culturally competent physicians. In this study, we explored Taiwanese medical students' perspectives on their development of CCC through IFMSA exchange.

**Summary of Work:** We designed semi-structure interviews and invited 10 Taiwanese medical students who had completed four-week IFMSA exchange programs (SCOPE for professional and SCORE for research) in the past five years. We explored their perspectives of exchange programs regarding the impact on their understandings of CCC and their career development. The data were collected and transcribed verbatim and analyzed with the inductive approach.

**Summary of Results:** Four themes from the data were identified: 1. Students' deficiency in preparation in their professional exchange, limited language proficiency of both students and their colleagues of the host institution, and loosely-arranged courses of IFMSA programs would have impact on the academic quality of an exchange experience. 2. People whom students encountered and worked with was essential in their cultural experiences. 3. Length of the time spending on interacting with other exchange students and the degree of cultural diversity of their exchange settings had impact on their learning experiences. 4. The student receiving experiences of and support from the local student unit might affect their learning.

**Discussion and Conclusions:** Although students expressed some concerns, these self-perceived obstacles and challenges encouraged students to interact among exchange students of diverse backgrounds through discussing about their clinical studies and therefore get to know different medical education programs and lifestyle in general. A well-organized program also reply on the arrangement made by the host institution in terms of learning and opportunities to mix with local people. The students' mindset also determines the success of the exchange programs and their development of CCC. Therefore, how to prepare students for such exchange programs also deserves further attention.

**Take-home Messages:** IFMSA medical student exchange programs provided students with the valuable CCC experiences, but better preparation is required for host institutions and students to facilitate better learning experiences.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK12 (132)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Thai students' decision to study in Doctor of Medicine Program in China

#### AUTHOR(S):

- Woralak Bunpramuk, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand (Presenter)
- Worasit Charoensin, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** As the competition of education business increase worldwide, the affected medical school business in China try to target a new customer group, especially Thai students who were interested to join Doctor of Medicine Program in China. According to the data gathered from The Medical Council of Thailand since 2008 - 2018, there were about 1,542 students studying Doctor of Medicine Program in China, which is the highest ranking number of the Thai medical student studying abroad. Therefore, this research aim to study influencing factors on Thai students decision to choose their medical school in China.

**Summary of Work:** This research is the survey study using quantitative method. Instrumentations are online questionnaires by likert scale on 5 levels. The data was collected from 70 Thai medical students who had at least 2 years experiences studying in Doctor of Medicine Program in China. The results were presented by mean (X) and SD as a statistical description.

**Summary of Results:** This research found that there are more female (62.86%) than male (25.72%) students. Most of the students are from Bangkok (40.00%) and study in Government University (97.14%). The factors influencing Thai students decision to choose their medical school in China were divided into 3 factors: (1) Image factor at a highest level (X=4.41), (2) Curriculum factor at a high level (X=4.05) and (3) Personal factor at a low level (X=2.23).

**Discussion and Conclusions:** Medical school image is the core factors affecting to Thai students' preferences for medical school in China. So, medical school should also advocate for image factor in order to encourage students' engagement.

**Take-home Messages:** Although, image factors will be the most important factor but other factors such as curriculum factor is also crucial as it may contribute and reinforce to long-term success as well as image of medical schools.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK13 (1516)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Internationalization of Medical Education - An International Partnership of 12 Universities in 4 Continents to Promote Cultural Awareness and Early Networking

#### AUTHOR(S):

- Anette Wu, Columbia University, USA (Presenter)
- Geoffroy Noel, McGill University, Canada
- Heike Kielstein, Martin Luther University, Germany
- Takeshi Sakurai, Kyoto University, Japan
- Chung-Liang Chien, National Taiwan University, Taiwan
- Suvi Viranta-Kovanen, University of Helsinki, Finland

#### ABSTRACT

**Background:** In a globally interconnected world, internationalization of medical education (IoME) can enhance students' understanding of social, cultural, and ethical differences and can prepare future physician leaders to practice with a better understanding and awareness of cultural differences. The overall objective of this program is to prepare preclinical medical students for international leadership roles and global collaborative problem solving in healthcare via early networking, small group collaborative work and international research abroad.

**Summary of Work:** The program is a 12 school collaboration between Australia, Austria, Canada, Denmark, Finland, Germany, Japan, Taiwan, the UK, and the USA. The students meet online for one semester to work in small groups (n=3-4) during several structured sessions. Topics include comparison of Anatomy courses/curricula, differences in international healthcare education and delivery, Global/Public Health challenges, and differences in health ethics and health law. Students reflect on the topic of body donation and death, work on a collaborative small group paper, and create a video and slide presentation together. The small group work culminates in two large international virtual conferences, with all students and faculty participating, where students present their work. Following the conferences, the students travel to the partner countries for short-term basic sciences research internships and to socialize with their peers in the host country.

**Summary of Results:** The voluntary program enrolls about 200 students per year (60 small groups). The majority of students selected Public Health topics and health law/ethics for their final small group papers and conference presentations. The students felt that they learned from each other. We observed a level of appreciation of what they have at home and cultural awareness. Results also demonstrate that the travels help with building research techniques skills, cultural competency and social connections. In 2019, about 100 students will participate in the exchange research travels to their partner schools.

**Discussion and Conclusions:** Our program aims to provide students with an early acquisition of international and cultural experience, basic sciences skills, as well as professional scientific networking opportunities. This early bonding of future healthcare leaders may facilitate international collaborations going forward.

**Take-home Messages:** Early IoME can enhance students education and can be introduced early in medical education.

## #9KK Posters - Healthcare systems/Diversity/International Dimensions

### 9KK14 (1791)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### E-mentoring in Academic Medicine with an International Peer-support Model: Experience from the UK - International Research Mentorship Programme

#### AUTHOR(S):

- Emily Leung, The Chinese University of Hong Kong, Hong Kong (Presenter)
- Christien Ka Hou Li, Faculty of Medicine, Newcastle University, UK
- Rachel Wing Chuen Lai, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong
- Gary Tse, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

#### ABSTRACT

**Background:** Traditionally, acquisition of research skills during undergraduate studies occur between senior researcher and medical students. The International Research Mentorship Programme is a student-led e-mentoring platform introduced in 2018. It encourages a peer-mentoring approach from more to less experienced medical students. The programme follows the mentee(s) through from start to publication and/or presentation of a research project with a peer-support model. It aims to foster international research networking and knowledge transferral.

**Summary of Work:** Experienced medical student researchers from Newcastle University and The Chinese University of Hong Kong were recruited as mentors, followed by an application-recruitment process for research mentees from both universities. Focus groups including surveys were conducted on Likert scale after each project to evaluate effectiveness.

**Summary of Results:** From June 2018 to January 2019, 4 (UK=2; HK=2) student mentors and 13 (UK=5, HK=8) student mentees were recruited and evaluated. Over a mean period of  $8.1 \pm 6.9$  months, 6 papers were published on peer-reviewed journals and 4 papers are currently under review. 2 student mentors were listed as senior author in 6 papers. 9 (69.2%) student mentees had published as first author/ co-first authors and 10 (76.9%) students published papers as co-authors. Based on post-project surveys, perceived value added to medical/university education obtained  $4.4 \pm 0.5$  while overall mentee satisfaction and 'better understanding of research' achieved  $4.7 \pm 0.6$  and  $4.3 \pm 0.8$  respectively. Furthermore, majority of student mentees were found to (9/13; 69.2%) feel more at ease approaching student mentors compared to professors. Common themes were collected from focus groups. Student mentors were able to identify their knowledge gaps while leading their research groups, and enhanced leadership and social intelligence. An effective e-mentoring relationship is contributed by mentors' leadership skills, mutuality and hypostatization of beneficial outcome.

**Discussion and Conclusions:** Quality e-mentoring platform can facilitate experience and knowledge transferral. Coupled with a peer-support model, student mentors translate one's experience into organized articulation, reinforcing their medical and research knowledge. Peer interaction also fostered skills in peer leadership and promoted active learning in application of rules of evidence in appraising medical literature in both parties.

**Take-home Messages:** E-mentoring coupled with a peer-support model in medical research is effective in overcoming geographical barriers while achieving effective teaching and publication outcomes.

## #9LL Posters - Student: Stress

### 9LL01 (1656)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Undergraduate health students' academic workload and the factors that influence their perception

#### AUTHOR(S):

- Sandra Flores Alvarado, Universidad De Chile, Chile (Presenter)
- Diego Pacheco Sandoval, Universidad De Chile, IFICC, Chile
- Constanza Pino León, Universidad De Chile, Chile
- Shenda Orrego Molina, Universidad De Chile, Chile
- Natalia Harden Díaz, Universidad De Chile, Chile
- José Peralta Camposano, Universidad de Chile, Chile

#### ABSTRACT

**Background:** Several studies have observed discrepancies between real working hours from students, studying time as declared by academic schedules, and the student's perceived academic workload. Addressing this matter, literature points out that there is a series of factors that affect perceived academic workload, such as those related to teaching and learning environments, or those concerning work, family and the student's personal habits.

**Summary of Work:** We seek to determine the relation between declared and real academic workloads in respect of perceived workload and characterize the factors that mainly explain said workload's perception from health-related undergraduate students. We used institutional declared workload data and applied a survey to 500 undergraduate health students that measures real and perceived workload, explanatory factors regarding its perception and said factors exposure level. We adjusted a PLS-GLM binary response model to analyze the data and to identify the factors that have more importance on explaining perceived academic workload.

**Summary of Results:** We found that real independent study hours and declared hours have an effect on increasing workload's perception, which contrasts with its decrease as real, attending hours, increase. Along with this we were able to identify 6 binary factors associated to workload's increase and 7 factors whose effect is its decrease.

**Discussion and Conclusions:** These results show that the amount of time declared on study programs increases perceived workload as it goes up; however, the amount of real hours that students spend on their academic work only increase perceived workload when the hours are used on independent study time, not when they consist on attending classes. Regarding the explanatory factors, those that depend on their exposition to them in order to affect perceived workload, lack a clear tendency on increasing or diminishing it. Conversely, we observed clearer tendencies concerning factors that do not depend on their exposition, where those increasing perceived workload are curriculum associated and those decreasing it are related to other aspects of learning and teaching environments, besides individual studying habits.

**Take-home Messages:** Our results reaffirm the need to focus academic workload studies on its perception, emphasizing both curriculum and educational environment factors, as well as personal ones that have an important effect on it.



## #9LL Posters - Student: Stress

### 9LL02 (1494)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

## Relationship between emotional distance and psychological stress in medical studies

### AUTHOR(S):

- Angelika Taetz-Harrer, Universität Witten/Herdecke, Germany (Presenter)
- Arndt Büssing, Universität Witten/Herdecke, Germany
- Michaela Zupanic, Universität Witten/Herdecke, Germany
- Jan Ehlers, Universität Witten/Herdecke, Germany

### ABSTRACT

**Background:** Does emotional distance support coping with stressful situations? Studying human medicine is a discipline associated with great stress, and high risk of burnout among medical doctors. To cope with it, emotional distancing is often used as an adaptive strategy. The beginning of the clinical part in particular is associated with a significant decrease in student satisfaction, and at the same time students report an increased prevalence of psychosomatic complaints. A longitudinal research project at Witten/Herdecke University (W/HU) will investigate where and in which areas medical students need special support in order to develop effective stress-management strategies.

**Summary of Work:** Prior to the start of the model curriculum 2018+ at the W/HU, the project was piloted using cross-sectional analyses to collect data and validate the test battery. Through pseudonymized surveys among students during their medical studies (1.- 9. term), standardized questionnaire modules were used to identify different study and quality-of-life-associated dimensions.

**Summary of Results:** The sample included 329 medical students. The study explores potential variations between semesters in wellbeing (WHO5) and emotional distance (Cool Down, CDI) during clinical activity. Results indicate that in early clinical phase, those students with significant psychological stress and well-being deficits (WHO5 <13) demonstrated greater emotional distance (CDI) than the psychologically inconspicuous group. After the first clinical semester, however, the observed effects are inverted.

**Discussion and Conclusions:** Results may indicate that a high emotional distancing between students and patients before clinical activity can be an indicator of emotional exhaustion and depression. However, the establishment of a 'professional emotional distance' during clinical activity is also a 'healthy' strategy for the physicians ability to perform. To exclude cohort effects, a longitudinal study is necessary. The results can be used as an anonymous 'traffic light' system to derive the need for measures addressing specific study phases.

**Take-home Messages:** The objective is an advanced identification of stress reactions and stressors to promote the development of coping strategies in stressful study phases during medical school.

## #9LL Posters - Student: Stress

### 9LL03 (2397)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Moral Distress Among Medical Students: A Systematic Review of Its Causes, Impact and Response

#### AUTHOR(S):

- Susan Glick, Rush University, USA (Presenter)
- Jacob Schulman, Rush Medical College, USA
- Max Harris, Rush Medical College, USA
- Daniel Pohlman, Rush University, USA

#### ABSTRACT

**Background:** Moral distress occurs when one knows the moral and ethical course of action, yet is constrained from performing it. Lack of resources and futile care are some of the many reported causes of moral distress among healthcare professionals, and may result in frustration, anger, a sense of powerlessness, job dissatisfaction and intent to leave the profession. These symptoms are strikingly similar to those of burnout syndrome and may be confused with it. Medical students may disproportionately experience moral distress, as they are well trained in the ideals to which the profession aspires, yet wield little power in the health care system.

**Summary of Work:** We systematically reviewed the literature to assess studies that described and evaluated moral distress among medical students. We searched OVID, CINAHL, PsycINFO, and ERIC through October 2018. We reviewed titles and abstracts to determine eligibility. Eligible studies had to represent an original study; present data about the causes, impact, or response to moral distress; measure and report outcomes in medical students; and report findings in English. Following full text review, those articles that did not meet all inclusion criteria were excluded.

**Summary of Results:** The search yielded 63 articles; 6 were included. Five addressed situations that result in moral distress; two addressed its impact. None addressed the response to moral distress. Narrative synthesis was performed due to data heterogeneity. Studies differed in their conclusions about which situations resulted in the greatest moral distress, including those with immediate potential to cause harm; verbal abuse; communication issues, resource allocation, and access to care. Role modeling was inversely correlated with student distress, as was action-taking. One study found moral distress can result in either emotional desensitization or worsening distress.

**Discussion and Conclusions:** Little is known about the situations that result in moral distress among medical students or about the experiences with the potential to result in the greatest distress. The impact of moral distress on medical students is largely unknown. The literature is silent on the response to medical students' moral distress.

**Take-home Messages:** As medical educators and others strive to promote student wellness, deepening understanding of the causes, impact and response to moral distress among medical students is imperative.

## #9LL Posters - Student: Stress

### 9LL04 (2340)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Anxiety analysis during the first clinical encounters: simulation in undergraduate medicine

#### AUTHOR(S):

- Nancy Segura-Azuara, Tec de Monterrey, Mexico (Presenter)
- Irma Eraña Rojas, Tec de Monterrey, Mexico
- Mildred López Cabrera, Tec de Monterrey, Mexico
- Melissa Valeria Luna-de-la-Garza, Tec de Monterrey, Mexico
- Javier Ibarra-Castorena, Tec de Monterrey, Mexico

#### ABSTRACT

**Background:** First clinical encounters trigger strong feelings in medical students, as they face complex illnesses or guilty feelings about “using patients suffering” for learning purposes. Clinical simulation allows experiencing anxiety in a safe environment before becoming involved with patients’ in the hospital. The objective of this research was to assess the level of anxiety during medical students’ first clinical encounters, as they start to experience clinical simulation; by the use of the Clinical Simulation Scenarios’ Anxiety Inventory.

**Summary of Work:** A sample of 49 students coursing the fifth semester in med school in a private school in North of Mexico. A voluntary, anonymous, on-line 25-item survey, grouped into seven factors, was obtained from several other assessment instruments related to exam anxiety, self-esteem, life satisfaction. This survey has a 5-level Likert scale; 1 meaning completely disagree; and 5, completely agree. The analysis was carried out using descriptive statistics, item tendencies, and factors of the proposed theoretical model. Descriptive statistics analyze the factors integrating the proposed theoretical model, standard deviation and confidence interval of 95% for each of these, ANOVA and single-factor variance analysis, and item tendencies.

**Summary of Results:** We found an overall average of 2.67 for the level of anxiety. The gender factor showed a significant difference by ANOVA (p-value = 0.016). The trends’ results by factor show significant differences in corporal expressions (p-value = 0.003), concern about how others perceive me (p-value = 0.007) and worries about self-image (p-value = 0.019).

**Discussion and Conclusions:** Assessment is very important for professional training. Since anxiety frequently follows new learning, assessing this issue is mandatory. This research has high transferability to other levels of medical training and other fields, in undergraduate and postgraduate studies. We advice giving the participants precise instructions regarding the way to address the survey, as being related to exams, specific courses or semester in their career.

**Take-home Messages:** Anxiety is present during the first clinical encounters in medical students. The main factors associated with anxiety in undergraduate students were: gender, corporal expressions, others perception about oneself and worries about self-image.

## #9LL Posters - Student: Stress

### 9LL05 (3101)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Estimation of the prevalence and causes of anxiety and depression among students in a Caribbean medical school and its correlation with academic performance

#### AUTHOR(S):

- Yuliya Modna, Trinity School of Medicine, Saint Vincent and the Grenadines (Presenter)
- Bernadette Scott, Trinity School of Medicine, Saint Vincent and the Grenadines

#### ABSTRACT

**Background:** Students are exposed to many stressful experiences during their training and often must cope on their own (Ediz B et al., 2017). Constant stress leads to emotional outbreaks, which have a negative impact on academic performance and well-being (Ahmed I et al., 2009).

**Summary of Work:** **PURPOSE:** to estimate the prevalence and causes of anxiety and depression among students of TSOM and its correlation with academic performance. **METHODS.** 56 student-volunteers of TSOM with a similar academic load answered the Beck Anxiety Inventory and the Beck Depression Inventory and rated factors which can have an effect on their emotional condition.

**Summary of Results:** Prevalence of anxiety showed: 94.4% students had a very low anxiety level and 5.6% - moderate level. The depression prevalence was: 77.7% students without depression, 11% had mild mood disturbance, 5.56% - borderline clinical depression, and 5.56% - moderate depression. The correlation ( $R = -0.58$ ) between anxiety and GPA was significant ( $P < 0.005$ ), showing a lower GPA in students with moderate anxiety and also the correlation ( $R = -0.61$ ) existed between the GPA and depression ( $p < 0.001$ ), supporting the link between negative impact of moderate and clinical depression on academic performance. The common factors which increased students' stress levels included: financial factors (51%), academic stress (32%), lack of support and personal stress (22%).

**Discussion and Conclusions:** Only 20% of the TSOM students had some form of depression and 5.6% - moderate anxiety level caused by previously described factors.

**Take-home Messages:** Suggestions: provide more institutional services to the students such as: open dialogs, support group/community options, academic counselling, and health professionals.

## #9LL Posters - Student: Stress

### 9LL06 (2559)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Stress, anxiety, and depression among third year medical students at Chulalongkorn University

#### AUTHOR(S):

- Nichaphat Bovornsethanant, Faculty of Medicine, Chulalongkorn University, Thailand (Presenter)
- Siwat Techavoranant, Faculty of Medicine, Chulalongkorn University, Thailand
- Sittisak Honsawek, Faculty of Medicine, Chulalongkorn University, Thailand

#### ABSTRACT

**Background:** Nowadays, mental health problems are progressively increased worldwide. Medical students are at higher risk as they have more intense factors, for instances, the curriculum, higher expectation, and social standard. The purpose of this cross-sectional descriptive study was to investigate mental health of medical students in 3 axes - depression, anxiety, stress - and its associations such as gender and study programs.

**Summary of Work:** The participants in this study included 205 3rd year medical students, 101 males (49.27%) and 104 females (50.73%), in academic year of 2018 at the Faculty of Medicine, Chulalongkorn university. The research instrument was a survey which was a set of questionnaires that contained 3 parts: basic information, Depression Anxiety and Stress Scales (DASS-21), and tow questions.

**Summary of Results:** Our data indicated that the students had 29.76% depression, 29.76% anxiety, and 22.93% stress (by means of moderate to extremely severe levels in each axis). The students' study programs appeared to affect their anxiety: students who studied in the consortium of Thai medical school program were more likely to have anxiety than the others ( $p < 0.05$ ). The causes of depression in 3rd year medical students were most likely to be studying subjects (49.76%), friends (14.63%), and relationship (12.68%), while they were studying subjects and friends in anxiety (68.29% and 10.73%), and stress (77.07% and 5.85%), respectively. There were neither significant correlation between causes of mental problems and gender nor causes of the problems and the students' study programs. The students would consult their friends, family, and not consulting anybody when they were facing depression (41.46%, 31.71%, and 23.90%), anxiety (45.37%, 30.73%, and 20.98%), and stress (42.44%, 36.10%, and 19.02%), respectively. The correlations between the consultants and gender or the study programs were not significantly defined.

**Discussion and Conclusions:** The medical study programs in which the students are studying seem to influence their mental health which might be affected by their primary base and expectation. Furthermore, there are factors such as national license examination and the more intense curriculum.

**Take-home Messages:** The 3rd year medical students are at higher risk for mental health problems. Thus, these results may help devising prevention strategies and early detection for them.



## #9LL Posters - Student: Stress

### 9LL07 (763)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Stress and Stressors among female medical undergraduate students: A Cross-sectional study in a private medical college in Pakistan

#### AUTHOR(S):

- Saba Tariq, University Medical and Dental College, The University of Faisalabad, Pakistan (Presenter)
- Sundus Tariq, University Medical and Dental College, The University of Faisalabad, Pakistan
- Saffee Tariq, Rawalpindi Medical University, Rawalpindi, Pakistan

#### ABSTRACT

**Background:** The prevalence of stress is common among medical students and causes an unfavorable influence on their performance in the class, clinical rotations and an adverse impact on their social life. The aim of our study was to investigate apparent stress, severity and sources of stress among female medical undergraduate students in a private medical college in Pakistan.

**Summary of Work:** In this cross-sectional, questionnaire-based study, a total of five hundred and fourteen (514) female medical students from first year to final year were included. The study was carried out at University Medical and Dental College, Faisalabad. The data was analyzed with SPSS 21.

**Summary of Results:** Female medical students from five years of medical school (n= 514) were divided into three medical groups, pre-clinical (n = 271), para-clinical (n = 111) and clinical (n = 132). The mean age of three groups were 19 (1), 20.59 (0.774) and 21.83 (1.032) years respectively. The marks of the students were negatively related with stress scores in all groups, but they were highly significant in pre-clinical year only ( $p \leq 0.001$ ). Severe stressors stated by respondents were, 'raised parental expectations', 'frequent examinations', 'sleeping difficulties', 'anxiousness about the future', 'quality of food in mess', and 'accommodation away from home'.

**Discussion and Conclusions:** This study showed higher levels of stress among our participants. The academics and psychosocial were the major stressors. Medicine is a difficult field and start of study in medical school is a stressful phase in life due to hard education tenure, separation from family, friends and surrounding attachments.

**Take-home Messages:** It is important to teach students to cope up this stress as continuous stress has unpleasant effects on students' academic record and physical fitness.

## #9LL Posters - Student: Stress

### 9LL08 (3173)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Coping with stress, fatigue, and sleepiness during medical studies: Experience of the French military medical school

#### AUTHOR(S):

- Olivier Coste, Ecole de santé des armées, France (Presenter)
- Léa Ruelle, Ecole de santé des armées, France
- Rémy Chapelle, Ecole de santé des armées, France
- Marion Trousselard, Institut de recherche biomédicale des armées, France

#### ABSTRACT

**Background:** French military medical students have to pass high selective exams during their first academic year. Cadets are submitted to a high amount of stress and chronic sleep restriction, generating anxiety, fatigue, and sleepiness. A “NO-STRESS” program was built four years ago in order to cope with these problems.

**Summary of Work:** The Program has several components with repeated psychometric evaluations by validated questionnaires along the year, group measures (information about sleep and circadian hygiene including light therapy) and individual measures (relaxation, self-hypnosis, and sleep medicine intervention).

**Summary of Results:** Iterative psychometric evaluations help to detect vulnerable students. The involvement in the prevention program remains based on freely participation of the students. We observed stable achievement in academic results. The benefit on light therapy is currently under evaluation. Statistical results will be presented during the congress.

**Discussion and Conclusions:** We expect a positive impact of the NO-STRESS program and we are very impatient to verify the efficiency of the chronobiologic measures we have taken, as we have previously shown that a seasonal factor seemed to be more pregnant than other individual factors of vulnerability on psychological stress patterns. This program is the response of our school to fight against student stress and academic failure. It has the advantage to take into account the whole group of students and vulnerable subjects at the same time.

**Take-home Messages:** Our results underline the underestimated importance of chronobiologic factors in coping strategies. These aspects question the temporal organization of the medical training course. Chronobiologic interventions may be more systematically present in medical student mental health prevention programs.

## #9LL Posters - Student: Stress

### 9LL09 (742)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Does previous experience of performing affect anxiety levels and attainment in medical students during their first face to face assessment?

#### AUTHOR(S):

- Laura MacKenzie, University of Sheffield, UK (Presenter)
- Philip Chan, University of Sheffield, UK
- Emma Wynne, University of Sheffield, UK
- Alice O'Regan, University of Sheffield, UK

#### ABSTRACT

**Background:** Performance anxiety can detrimentally affect attainment in face to face examinations. When required to perform under the direct scrutiny of an audience or examiner, composure and required technical ability can suffer. How does previous experience in an activity of performance relate to the reported anxiety levels of medical students during their first face to face assessment of clinical skills at medical school?

**Summary of Work:** Second year medical students sitting their first ever face to face assessment of practical skills in simulation will be sampled, and interviewed using a structured approach. We will construct a scale of experience and successful adaptation to performance anxiety. Using logistic regression statistic techniques this scale will be correlated to self reported anxiety in their first face to face assessment of clinical skills. We will compare data from students who successfully passed their assessment with students who had to repeat their assessment.

**Summary of Results:** Analysis of data might produce one of three results; that previous experience and adaptation to performance in pressure situations is significantly more likely in pass students than repeaters, significantly less likely, or not significantly different.

**Discussion and Conclusions:** Our experimental hypothesis is that students who have had experience in performance activities will report both lower anxiety levels and suggest how they have overcome performance anxiety at assessment. Students who have not partaken in performance activities are expected to report higher anxiety levels owing to lack of experience of pressured performance. Showing benefit of experience in performance activities has implications for not only selection of medical students but the potential design of examination preparation activities within medical schools.

**Take-home Messages:** How experience of performance can be beneficial to medical school attainment. How medical schools could use performance-based activities to aid subsequent exam performance.

## #9LL Posters - Student: Stress

### 9LL10 (2651)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Anxiety Among Health Professions Undergraduate Students: Experience Report from a Center for Psychological and Educational Support

#### AUTHOR(S):

- **Rodrigo Flauzino, Ribeirao Preto Medical School, University of Sao Paulo, Brazil (Presenter)**
- Karolina Murakami, Ribeirao Preto Medical School - University of SAo Paulo, Brazil
- Maria Paula Panúncio-Pinto, Ribeirao Preto Medical School, University of Sao Paulo, Brazil
- Victor Ferraz, Ribeirao Preto Medical School, University of Sao Paulo, Brazil

#### ABSTRACT

**Background:** Anxiety is defined as a psychic state of apprehension due to the prediction of future situations or at presence of threatening conditions. During undergraduate time, students face challenges and demands that lead to situations that generate this state, which can compromise motivation, academic achievement and even lead to school dropout. Considering this, is very important to offer students listening spaces, exchange of experiences and reflections, in order to help them in the management of anxiety, and thus promote quality of life and health.

**Summary of Work:** This work reports the experience on developing workshops for health professions undergraduate students, coordinated by professionals from the Center for Psychological and Educational Support of a Brazilian public university. Based on the exchange of experiences among peers, in welcoming and listening, the workshops aimed to contribute on the development of strategies to deal with school anxiety. At meetings, theoretical concepts, dynamics and experiences exchanges between students and professionals were alternated.

**Summary of Results:** The main anxiety causes reported by the students were on seminars presentation, competitiveness and study routine organization. Workshop evaluations by students refer to the acquisition of knowledge about anxiety and ways of dealing with it. Workshops were recognized by students as a place of bonds building, a protected trust environment, where participants reports were able to circulate freely and serve as a mutual support to each participant.

**Discussion and Conclusions:** Considering that anxiety affects motivation and learning, the offer of group spaces can positively impact the students well-being, being a support to academic everyday life and contributing to decrease vulnerability to evasion.

**Take-home Messages:** The need to cope with school anxiety is one of the reasons that lead students walk into this workshop. In addition to initiatives of this type, the articulation of other undergraduate students support networks remains necessary.

## #9LL Posters - Student: Stress

### 9LL11 (1100)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### What soft science activities do medical students prefer to reduce stress?

#### AUTHOR(S):

- Pornsuda Krittigamas, Nakornping Medical Education Center, Nakprnping Hospital, Thailand (Presenter)
- Ladawan Hanphairot, Nakornping Medical Education Center, Nakprnping Hospital, Thailand
- Chidchanok Ruengorn, Nakornping Medical Education Center, Nakprnping Hospital, Thailand
- Worachet Techarak, Nakornping Medical Education Center, Nakprnping Hospital, Thailand

#### ABSTRACT

**Background:** Stress disorder is common in students. Soft science activities have been reported to help reduce stress; however, only a few studies were conducted in medical students and in Asian countries where culture and beliefs may be different from Western countries. We described stress levels in clinical year medical students and examined their choice of soft science activities that they reported may help reduce their stress.

**Summary of Work:** Clinical year medical students trained at a tertiary care teaching hospital in northern Thailand were asked to complete the Suan-prung Psychiatric Hospital 20-item stress test. They were also responded to a self-administered questionnaire regarding their choices of soft science activities that they preferred and they had done to reduce their stress. The most common activities the students preferred and had actually used were described. Concordance between activities that students preferred and had actually done was examined.

**Summary of Results:** Of 59 clinical year medical students, 33 responded to the questionnaire. The students' mean age was 25.2 (min21 max34) years, with 42% being male. 27 students (81.8%) had high to severe levels of stress. The top four soft science activities that students preferred were music therapy (82%), art therapy (61%), meditation (60%) and aerobic dance (39%). The top four activities students had actually used to reduce stress were music therapy (63%), meditation (30%), art therapy (21%) and aerobic dance (15%). The highest concordance between activities that the students preferred and had actually done was in music therapy, aerobic dance and meditation (55%, 24% and 21% concordance, respectively).

**Discussion and Conclusions:** Clinical year medical students had high level of stress. Soft science activities may have an important role in relieving stress in medical students. As there was some discordance between the activities the students preferred and had actually done, promoting activities of their choice may help enhance student participation and hence effectively reduce their stress.

**Take-home Messages:** Music therapy, art therapy and meditation are the activities that should be promoted in medical students to reduce their stress.



## #9LL Posters - Student: Stress

### 9LL12 (1445)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### What is the effective mental support system for medical students in Thammasat University?

#### AUTHOR(S):

- **Phiangbunpa Natithamkul, Medical Education Center Suratthani Hospital, Thailand (Presenter)**
- Thanapat Siangchin, Medical Education Center Suratthani Hospital, Thailand
- Papitchaya Pethprapatsorn, Medical Education Center Suratthani Hospital, Thailand
- Thanapat Tinnapan, Medical Education Center Suratthani Hospital, Thailand
- Thipmani Chartsoot, Medical Education Center Suratthani Hospital, Thailand
- Peerapon Lerkitkul, Medical Education Center Suratthani Hospital, Thailand

#### ABSTRACT

**Background:** Studying medicine is perceived as being stressful, caused by strenuous medical programs, extravagant workload and lack of emotional support. Excessive stress predisposes medical students to high levels of depression and suicide. This study was conducted to determine the effective mental support system that university can provide to medical students. Our aim is to improve the support system in Medical Education Center in order to reduce stress in our students.

**Summary of Work:** This descriptive cross-sectional study was conducted in 4th to 6th year medical students in Thammasat University, Thailand on July, 2018. Participants agreed to fill out a Google form which asked them to rate the mental support system in their Medical Educational Center into 5 levels (0%= not at all effective, 25%= slightly effective, 50%= fair effective, 75%= very effective, 100%= extremely effective).

**Summary of Results:** There were 189 medical students participated. Results revealed that direct psychiatric consultation was the most effective coping strategy (56.80%). Followed by entertainment facility provided in education center such as sports, movie, music (52.01%), Rapid Action Team for severe mental burnout (49.80%), peer mentoring circle (44.80%) and consultant teacher (35.92%). Approximate 38% of medical students don't know about Rapid Action Team due to inadequate information. Also, some consultant teachers don't have sufficient time for medical students.

**Discussion and Conclusions:** Psychiatric consultation service for burnout medical students and entertainment facility in Medical Educational Center are top two most effective mental support systems.

**Take-home Messages:** Mental support system could play an important role in helping medical students cope with stress. Further development of system, making it easy to access and the promotion of Rapid Action Team are required.

## #9LL Posters - Student: Stress

### 9LL13 (2646)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Stress and burnout in chiropractic students of European chiropractic colleges: a cross-sectional study

#### AUTHOR(S):

- Pablo Perez de la Ossa, Barcelona College of Chiropractic, Spain (Presenter)
- Maike Perello, Barcelona College of Chiropractic, Spain

#### ABSTRACT

**Background:** High levels of stress and burnout are known to negatively impact academic success, quality of life and well-being of students. The purpose of this study is to investigate the degrees of stress and burnout levels of students from several European chiropractic colleges.

**Summary of Work:** The tools used to assess stress and burnout consisted of the Perceived Stress Scale (PSS-10) and the Maslach Burnout Inventory - Student Survey (MBI-SS). The surveys were delivered electronically in November 2017 to chiropractic students enrolled in a five-year curricular course from Barcelona College of Chiropractic (BCC), Madrid Chiropractic College (MCC), McTimoney College of Chiropractic (McT) and Chiropraktik Akademie (CPA). Data was analyzed with descriptive statistics and one-way ANOVA to determine statistically significant differences between variables such as age, gender, working status, academic year and institution.

**Summary of Results:** The MBI-SS had a response rate of 30% and presented statistically significant differences between institutions. McT demonstrated the highest levels of exhaustion (p-value = 0.001) while non-significantly, BCC presented higher cynicism scores and the lowest scores for academic efficacy. Similarly, the PSS had a 34% response rate and also demonstrated statistically significant differences between chiropractic colleges (p-value = 0.012) with McT presenting the highest values for perceived stress. Although not statistically significant, both surveys showed increased level of stress and burnout in females versus males, and higher scores in non-employed students versus employed students.

**Discussion and Conclusions:** In general, chiropractic present similar levels to other health care professionals. However stress and burnout levels differ significantly amongst colleges and the students academic year. Examining the scope of stress and burnout is necessary to aid in the future development of curriculums in order to reduce the burden on students and prevent them from suffering burnout by the time they get into practice.

**Take-home Messages:** These results suggest that colleges should monitor stress and burnout levels in their students. This may result in improving their quality of life, academic performance and help newly graduates' transition to professional life.

## #9LL Posters - Student: Stress

### 9LL14 (878)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Students' Life Cycle: stresses and motivations

#### AUTHOR(S):

- Winitra Kaewpila, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand (Presenter)
- Karen Könings, Faculty of Health, Medicine and Life Sciences, Maastricht University, Netherlands

#### ABSTRACT

**Background:** Medical study can be stressful. Academic life stress, burnout and de-motivation are among the most common problems, and add risks to mental disorders. There is ample evidence on the prevalence and contributing factors to (and between) stress, burnout and motivation using quantitative research approaches. However, limited data are available regarding how and why these factors are linked. This study aims to understand the phenomenon of the stress/burnout/motivation spectrum in medical students across the six years in medical school by answering these questions: a) To what extent do students in each year differ in terms of the factors related to stress and motivation? b) To what extent do high and low motivated students differ in how they perceive and cope with their study problems?

**Summary of Work:** Twelve students, one high-motivated and one low-motivated student from each year, were individually interviewed. Participants were selected by students in their year (gatekeeper). Content analysis of the interview transcriptions were independently analyzed by two reviewers, followed by cross-reviewing to reach agreement.

**Summary of Results:** Factors related to students' stress and motivation were students' perceived autonomy to choose for medical study, perceived values inherent to the medical profession, a sense of security, competence, self-acceptance, belongingness to the medical community, and a meaningful experience with patients. High-motivated students demonstrated a stronger future- and growth-oriented mindset. However, formerly low-motivated students can improve their motivation in later years.

**Discussion and Conclusions:** Students' stress and motivation are the results of a complex and dynamic interaction of individual, social and community, contextual and situational factors. These interacting factors contribute to different challenges in four phases of medical study, typified as: the admission phase, the adjusting phase in year-one, the academic challenge phase in the preclinical years, and the performance challenge phase in the clinical years.

**Take-home Messages:** Factors related to stress/burnout/motivation are interrelated and can be changed through the years of socialization in medical school. Stress, burnout and motivation problems should be addressed on the individual as well as the institutional level. Interventions should be customized to the local context, using multi-pronged strategies, systematically addressing burnout, improving student's motivation and promoting resilience and wellbeing.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM01 (268)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

**Literature review to identify the attitudes and beliefs and prevalence of sexual harassment relevant to delivering healthcare, for nurses and medical trainees in a Singapore academic hospital**

#### AUTHOR(S):

- Kaushal Sanghvi, Tan Tock Seng Hospital, Singapore (Presenter)
- Terence Huey, Tan Tock Seng Hospital, Singapore
- Sarah Lu, Tan Tock Seng Hospital, Singapore

#### ABSTRACT

**Background:** Sexual Harassment (SH) in the workplace has received increasing attention over the past year in the national, international press and within Medicine. We are not aware of any such studies done in the Singapore Hospital context.

**Summary of Work:** A detailed literature search was conducted on the topic using the terms “Sexual Harassment”, “workshop or training or education”, “Hospital”, “Nursing”, “medical training”, “residency”, “healthcare” in the Databases of PubMed, MGH onsearch, CINAHL, Ovid, Google Scholar from the year 1980 to 2018. From the search above, there has been no literature published about sexual harassment in a Singapore hospital.

**Summary of Results:** As part of its Research Study on Workplace Sexual Harassment published in 2008 (“2008 Study”), AWARE undertook a public opinion survey to find out the level of awareness, opinions and attitudes on this issue in Singapore. This is one of the largest surveys done in Singapore. Komaromy et al published on sexual harassment in medical training. 41% suffered as medical students and the rest 43% suffered as residents. Cook et al published in 1996 a survey done on sexual harassment on a group of Canadian residents from seven different residency programs. Significantly more female respondents than male respondents stated that they had reported events of sexual harassment. An article by Shu Li and Song Mei Lee-Wong in the Journal of Applied Psychology shows that different ethnic groups perceived the cues differently; that ethnicity affects the interpretation of a single English phrase; and that English, as used by Singaporeans, is a high context language, which complicates the understanding of victims’ coping responses.

**Discussion and Conclusions:** There is evidence to show that within Singapore itself, there’s a difference of attitude to sexual harassment in different ethnicities! Singapore being a developed Asian nation should be no different to the prevalence of sexual harassment in a hospital relevant to delivering healthcare, for trainees and nurses.

**Take-home Messages:** This is a study which does not have a previous precedent in Singapore. The prescriptive literature search shows me data and findings that may not be applicable to my hospital or Singapore. Hence it gives me an idea to the research methodology to apply.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM02 (1186)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The Political Stress of Postgraduate Medical Students

#### AUTHOR(S):

- Pattana Poopattanakul, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand (Presenter)
- Wannida Jitkaroon, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand
- Worasit Charoensin, Somdejphrajaotaksin Maharaj Hospital Medical Education Center, Thailand

#### ABSTRACT

**Background:** Since 2014, the coup in Thailand has been an important factor which encourages Thai people to be more interested in the politics. As observed by Mental Health Department, Ministry of Public Health, it can be found that a quarter of Thai population has experienced Political Stress Syndrome: PSS. Thai medical students who are also a part of citizen may have been affected by this situation. Therefore, this study aims to examine the level of Political Stress Syndrome in medical students to give suggestions and recommendations for preventing the PSS in the students.

**Summary of Work:** This study is quantitative survey research. The population consists of 135 postgraduate medical students at clinic level of Faculty of Medicine, Naresuan University, academic year of 2018. The research instrument is PSS assessment form designed by Mental Health Department. Descriptive statistics, the mean and S.D. are used for data analysis.

**Summary of Results:** There were 110 assessment respondents (81.48% of the total population). Most of the respondents were female (60%). The average age of the respondents was 30.19. The frequency of accessing the political news was some days (61.82%). Facebook was reported as the most popular for accessing the political news (96.36%). The result shows that most of the assessed students are bored to follow political news (69.10%). In addition, the political situation doesn't affect to the student's family relationship (89.09%) and colleague relationship (65.45%). According to the PSS assessment, it can be found that the assessed students have political stress at normal level, moderate level and high level at 67.27%, 23.64% and 9.09% respectively.

**Discussion and Conclusions:** The result shows that there are 9.09% of respondents who have a high level of political stress. It can be concluded that environmental factors, including political situation and related news exposure, are associated with mental health of the medical students. Moreover, the political stress may have negative effects on the academic and practical performance of students in the future.

**Take-home Messages:** This study suggests that the medical schools should provide social and psychological activities to improve medical students' quality of lives. At the same time, instructors and the students should be trained for stress management as extra-curricular activities.



## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM03 (2341)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The fatigue paradox: A grounded theory study exploring nurses', physicians' and residents' perceptions of physician fatigue

#### AUTHOR(S):

- Taryn Taylor, Schulich School of Medicine & Dentistry, Canada (Presenter)
- Emily Field, Schulich School of Medicine & Dentistry, Canada
- Sandy DeLuca, Western University, Canada
- Lorelei Lingard, Schulich School of Medicine & Dentistry, Canada
- Julie Ann VanKoughnett, Schulich School of Medicine & Dentistry, Canada

#### ABSTRACT

**Background:** Work hour regulation has failed to solve the problem of fatigued physicians. Organizations are turning to fatigue risk management (FRM) frameworks utilized in other highly reliable industries. However, these assume a shared understanding of fatigue as hazardous. Evidence suggests that physicians reliably recognize when they are tired; yet it remains unclear how they perceive the impact of their workplace fatigue. Thus, we set out to explore physician and nurse perspectives on the impact of physician fatigue on patient care.

**Summary of Work:** Using a constructivist grounded theory approach, we conducted 40 interviews with staff physicians (20), residents (8) and nurses (12) from the Departments of Emergency Medicine, Internal Medicine, Obstetrics and Gynecology, Surgery, Anesthesia and Radiology practicing in a tertiary academic centre or community hospital in Canada. Iterative data collection and analysis directed theoretical sampling. Constant comparative analysis raised our initial open coding to a more conceptual level, resulting in the final grounded theory.

**Summary of Results:** Participants held paradoxical views about physician fatigue. They described multiple manifestations of fatigue in clinical work (e.g. slowness, incorrect orders, poor communication) while also maintaining that fatigue has minimal impact on patient care. Our analysis revealed four main themes that reinforce this duality: (1) the idea of exceptional physicians ("My tired colleague wouldn't be as good as tired me"), (2) the role of interception by nurses, ("... I won't leave it where it's not safe"), (3) the absence of feedback or evidence ("I may not be picking up on all the errors I'm making when I'm sleep deprived") and (4) the minimization of the significance of fatigue-related events ("So there are little things that get missed... it turns out we missed that the aorta got stabbed").

**Discussion and Conclusions:** Healthcare providers are working within a complex framework that sustains contradictory perspectives about the significance of fatigue. This "fatigue paradox" will persist as long as we lack robust performance feedback mechanisms and transparent acknowledgement of nurses' role in mitigating harm.

**Take-home Messages:** Left unchallenged and unexamined, paradoxical perceptions of physician fatigue will likely impede successful implementation of fatigue risk management strategies in clinical practice.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MMo4 (412)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### A randomized controlled trial of Balint groups to reduce burnout among residents in China

#### AUTHOR(S):

- **Lei Huang, Tongji Hospital of Tongji University, USA (Presenter)**
- Jennifer Harsh, University of Nebraska Medical Center, USA
- Haisong Cui, Tongji Hospital of Tongji University, China
- Jiaxin Wu, Tongji University School of Medicine, China
- Liming Cheng, Tongji Hospital of Tongji University, China
- Wenyan Wu, Tongji Hospital of Tongji University, China

#### ABSTRACT

**Background:** Burnout is highly prevalent among residents, and is associated with negative outcomes for patients, organizations, and physicians. Balint groups have been shown to be an effective strategy to alleviate physicians' burnout. The purpose of this current study was to examine the effectiveness and feasibility of Balint groups in reducing burnout among residents in standardized training programs in China, by means of a randomized controlled trial design.

**Summary of Work:** 36 resident physicians in their first year of residency at a comprehensive hospital in China were randomly assigned to two groups. Physicians in the intervention group participated in 2 lectures and 10 Balint sessions in 6 months, while participants in the control group were placed on a waitlist. Participants completed burnout and job satisfaction measures pre and post intervention.

**Summary of Results:** Paired t-test results revealed that burnout subscale scores for emotional exhaustion ( $P=0.013$ ) and depersonalization ( $P=0.020$ ) for the intervention group were significantly decreased after Balint groups' participation compared to those of the control group. No significant differences were found in the scores for personal accomplishment ( $p=0.318$ ) and job satisfaction ( $p=0.716$ ), between groups. All 18 participants in the test group reported that Balint groups were helpful and that they would be willing to attend future Balint sessions. Overall satisfaction with the Balint groups program was over 80%.

**Discussion and Conclusions:** Balint groups are an efficacious and feasible strategy for alleviating resident physician burnout. Because of their effectiveness and standardized procedures, it may be beneficial for other residency programs in China to include Balint groups in their residency training programs.

**Take-home Messages:** 1. A randomized-controlled trial design to examine the effectiveness and feasibility of Balint groups in reducing burnout among Chinese residents in standardized training programs. 2. The Balint groups intervention in this study was a standardized training model introduced in Germany and modified by Tongji Hospital of Tongji University. 3. Balint groups participation showed to be efficient in relieving emotional exhaustion and depersonalization of burnout among Chinese residents.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM05 (2141)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Smartphones and social networks as determining factors of burnout in resident physicians

#### AUTHOR(S):

- Jessica Pallares Chavira, Universidad Autonoma de Chihuahua, Mexico (Presenter)
- Haydee Parra Acosta, Universidad Autonoma de Chihuahua, Mexico
- Jose Lopez Loya, CIFE, Mexico
- Diego Mendoza Enriquez, Universidad Autonoma de Chihuahua, Mexico

#### ABSTRACT

**Background:** There are information gaps regarding the relationship between the use of the Internet, mobile devices and Burnout in resident physicians, which is a growing problem.

**Summary of Work:** Multicentric cross-sectional study directed to a simple random sample of 212 residents of medical specialties offered by AMFEM, to whom an electronic questionnaire was applied. This instrument was previously validated by two techniques: 1) Expert Judgment. 2) Analysis of internal consistency, obtaining an  $\alpha$  of Cronbach = 0.94. The instrument integrated 28 simple variables, organized into two complex variables: use of mobile devices and burnout. The analysis of the information was carried out through different statistical analyzes: descriptive, correlational (Pearson R) and T test; using SPSS v.22.

**Summary of Results:** It was observed that resident physicians very frequently use electronic devices during working hours (5.04), in addition, they frequently use social networks (3.97). Regarding the burnout, residents consider more frequently to be fatigued by their work. In the results of the T test, were found significant differences between men and women, with respect to feeling exhaustion in their work. Women are the ones who present it the most; however, they maintain a professional position with the patient. The correlational results ( $p = <0.01$ ) showed a significant relationship between the use of smartphones, social networks and burnout.

**Discussion and Conclusions:** The relationship found among smartphones, social networks and burnout is similar to the results obtained by another study (Álvarez, R. B. & Mayo, I. C., 2015) However, the use of these also shows a relationship with the perception of self-efficacy in labor improvement.

**Take-home Messages:** Burnout syndrome is still a problem in health professionals. This study shows the importance of knowing the negative emotional experiences that can result from interactions with these technologies.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MMo6 (1585)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Academic self-perception: predictive factor of burnout in resident physicians

#### AUTHOR(S):

- **Antonio Guzman, Universidad autonoma de chihuahua, Mexico(Presenter)**
- Haydee Parra Acosta, Universidad autónoma de chihuahua, Mexico
- Erick David Aguilar Cisneros, Universidad Autónoma de chihuahua, Mexico
- Jose Lopez Loya, CIFE, Mexico

#### ABSTRACT

**Background:** In the medical residency, academic self-perception is affected by some factors that can trigger attitudes of disinterest and loss of value and meaning of their professional training. Objective: To determine the relationship between academic self-perception and Burnout in resident physicians.

**Summary of Work:** Cross-sectional multicenter study. The sample was integrated by 212 residents from different specialties of Schools and Faculties of Medicine associated with AMFEM. A questionnaire was applied with 12 items of the variable: academic self-perception, adapted from The Dundee Ready Education Environment Measure and 22 burnout variables adapted from Maslach Burnout Inventory. Content instrument validation was carried out using the expert judgment technique (Parra, Garay and Aguilar, 2018). Its internal consistency was validated with a pilot group of 30 residents, obtaining  $\alpha = 0.94$ . The analysis of the information was made by descriptive and inferential statistics with a  $p < 0.01 - 0.05$ .

**Summary of Results:** It was observed that almost always the residents have security (5.49) and confidence to accredit their specialty (5.22) and prefer to have practical experience of what they are studying(5.09). However, they occasionally consider that they don't have time to study (3.57) and have difficulty concentrating (3.39). In the analysis correlation it was showed a significant negative relationship  $p = <0.01$ , between taking part in class, study time, explicitness of teaching and the variables of burnout: "I treat patients as objects", "I feel that work wears me out", "work hardens me emotionally" and "I feel frustration in my work".

**Discussion and Conclusions:** The correlational analysis showed that, having a positive academic self-perception, there is less tendency to present burnout symptoms. The negative academic self-perception tends to present greater symptomatology of burnout syndrome, this has not been found in other articles, thus filling an information gap according to Dyrbye (2014).

**Take-home Messages:** It is important to have a positive academic self-perception to prevent the symptomatology of burnout syndrome.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MMo7 (1546)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Comparison of burnout, emotional intelligence and resilience between faculty clinicians and emergency medicine residents

#### AUTHOR(S):

- Zulkarnain Ab Hamid, National University Hospital, Singapore (Presenter)
- Shirley Beng Suat Ooi, National University Hospital, Singapore

#### ABSTRACT

**Background:** Burnout starts early in residency and emergency medicine (EM) residents are known to be especially vulnerable. Studies have shown that Emotional intelligence (EI) and resilience help to reduce risk of burnout. We compared the burnout rate, emotional intelligence and resilience scores between faculty clinicians and EM residents.

**Summary of Work:** 42 faculty clinicians and 23 EM residents, participating in a coaching project, was asked to fill up The Resilience Scale (TRS), Trait Emotional Intelligence Questionnaire (TEIQue) and the Maslach Burnout Inventory - Human Services Survey (MBI-HSS). Burnout was defined as having high score on emotional exhaustion; and high depersonalisation or/and low personal achievement. The measures were compared between the faculty and residents to quantify the difference.

**Summary of Results:** The prevalence of burnout amongst residents is 39.13%, and 4.76% for faculty ( $p = 0.0005$ ). This is associated with an equally-large difference in EI development. 78.26% of the resident score below average (BA) for the global EI, compared to just 33.33% of the faculty ( $p=0.0005$ ). Along the same vein, 21.43% of faculty have above average (AA) EI, whereas 0% of the residents have AA scores ( $p=0.037$ ). Similar patterns - for both BA and AA comparisons - are seen for all facets of EI except for emotional management (which are equal for both). Mean TRS scores are similar, with faculty scoring 141.6 and residents scoring 137.5 ( $p = 0.1808$ )

**Discussion and Conclusions:** This inverse relationship between EI and burnout is consistent with previous studies. EI is a competency that can be developed (over time), and improved scores are associated with markedly decreased burnout, suggesting the long-term protective nature of EI in curbing burnout and promoting career longevity. EI, thus, shouldn't be left as a "good-to-have" skill or one that should be honed naturally in the course of one's career. Efforts to accelerate EI competence through education and coaching - thus short-circuiting the development process - may help save residents from burnout. Similar moderate resilience levels suggest that resilience training - a common intervention - may not be as useful.

**Take-home Messages:** EI should be actively developed early in residency training, considering its importance in a doctor's work and its effects on long-term wellbeing.



## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MMo8 (2018)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### The impact of Bullying in the Irish Postgraduate Medical context

#### AUTHOR(S):

- Janet O'Farrell, Medical Council of Ireland, Ireland (Presenter)
- Ciaran Carr, Medical Council of Ireland, Ireland
- Stephen Bance, Medical Council of Ireland, Ireland

#### ABSTRACT

**Background:** The Medical Council of Ireland is committed to regulating the quality of doctor's education, training and lifelong learning. The Council monitors trainees' experiences of the clinical learning environment. It has been observed consistently that Irish trainees have faced challenges relating to bullying and negative wellbeing outcomes.

**Summary of Work:** A survey was hosted online and all Irish doctors on the trainee specialist division of the register were sent an invitation and reminders to participate. The Short Depression-Happiness Scale (SDHS) was utilised to examine mental health and wellbeing and additional questions on the experience of bullying, the frequency of bullying and involvement in adverse clinical events were also included.

**Summary of Results:** A total of 759 Postgraduate trainees participated. Almost forty-one percent (40.9%) of trainees reported experiencing bullying and forty-one percent of those bullied were involved in an adverse event. Of those not bullied, 18.5% were involved in an adverse event. Just under half (47.8%) of respondents who recorded high scores on the SDHS had been involved in an adverse event, while less than thirty percent (29.6%) of those who recorded low scores on SDHS were involved in an adverse event. In addition, elevated SDHS scores ( $\beta = -.1, p < .05$ ) and increased Bullying frequency ( $\beta = -.3, p < .05$ ) were significant predictors of a trainee experiencing an adverse event.

**Discussion and Conclusions:** The results suggest that bullying is an increasingly reported issue for Irish trainees, with deleterious consequences from a well-being perspective. Those who experienced bullying were more likely to experience an adverse event. While those who reported a greater frequency of bullying and presented with higher SDHS scores were also more likely to experience an adverse event.

**Take-home Messages:** Wellbeing issues play a role in the likelihood of adverse events occurring. Furthermore, it could be argued that these factors may be predictors of trainees emigrating to practice medicine abroad. This evidence base mirrors concerns that the Medical Council is receiving from trainees at the coalface of hospital medicine. These findings establish an evidenced need for an increased policy focus on wellbeing from the Medical Council.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM09 (2071)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### How much do doctors drink? - remembering the wellbeing of our workforce

#### AUTHOR(S):

- **Emily Savage, Chelsea and Westminster NHS Foundation Trust, UK (Presenter)**
- Luciana Sowole, Chelsea and Westminster NHS Foundation Trust, UK
- Shreena Shah, Chelsea and Westminster NHS Foundation Trust, UK
- Zulfiqar Mirza, West Middlesex University Hospital, Chelsea & Westminster NHS Foundation Trust, UK
- Christina Cotzias, Chelsea and Westminster NHS Foundation Trust, UK

#### ABSTRACT

**Background:** Doctors' wellbeing is crucial for a happy, motivated and productive workforce. In line with the UK government's drive to reduce physical and mental illness associated with alcohol consumption, we focused on this area of wellbeing for doctors.

**Summary of Work:** We surveyed doctors (Foundation Year to Consultant grade) in our trust about their alcohol intake, focusing on three key areas: I) Awareness of personal alcohol intake in relation to recommended guidelines II) Recognition of consuming detrimental levels of alcohol III) Knowledge of support services available This anonymous snapshot questionnaire was completed from 10th-21st December 2019 inclusive.

**Summary of Results:** Of 109 respondents, 15/109 (14%) drank no alcohol, 23/109 (21%) drank monthly or less, 34/109 (31%) 2-4 times/ month, 27/109 (25%) 2-3 times/ week and 10/109 (9%) > 4 times / week. On each intake occasion, the alcohol consumed was 1-2 units in 38/109 (35%) responses, 3-4 units in 29/109 (27%), 5 - 6 units in 19/109 (17%), 7-9 units in 7/109 (6%) and 10 or more units in 1/109 (1%). 10/109 (9%) reported that on at least one occasion in the last 2 years they could not do what was expected of them because of alcohol. 5/109 (5%) felt concerned about alcohol affecting their performance or judgement in the same timeframe. 20/109 (18%) wanted to reduce their alcohol consumption, 2/109 (2%) were annoyed by criticism of their drinking, 10/109 (9%) had guilty feelings about their drinking and 3/109 (3%) needed an eye opener. Pre Survey - 47/109 (43%) did not know where to seek help.

**Discussion and Conclusions:** Alcohol consumption is a problem for some doctors and a significant proportion did not know where to seek help. Almost a fifth of doctors want to reduce their alcohol intake.

**Take-home Messages:** There is a need to employ postgraduate medical education (PGME) resources to raise awareness about alcohol consumption and signpost support services for doctors. This should be in parallel with PGME programmes that focus on healthy and productive coping strategies for stress.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM10 (1306)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Resilience traits of Senior Paediatricians in a Tertiary Hospital in Singapore

#### AUTHOR(S):

- Jia Ming Low, National University Hospital of Singapore, Singapore (Presenter)
- Mae Yue Tan, National University Hospital of Singapore, Singapore
- Tammy Tsang, Institute of Mental Health, Singapore
- Marion Aw, National University Hospital of Singapore, Singapore

#### ABSTRACT

**Background:** Resilience is inversely related to burnout. A survey of the Maslach's Burnout inventory revealed that consultants in our paediatric department have less burnout than residents. We aimed to explore resilience mechanisms of senior physicians, with the focus of identifying traits and strategies, and identify what can be taught to residents.

**Summary of Work:** Thirty-one paediatricians (registrars and above) from the National University Hospital of Singapore, completed an anonymised survey including demographics and validated questionnaires- Connor Resilience Scale(CRS)- as a measure of resilience. Fifteen faculty (associate consultants and above) volunteered in one-to-one interviews with questions focused on traits and strategies, and their perceptions on teaching resilience to residents.

**Summary of Results:** Median age was 32(25-69)years, 77.4% were female. Median CRS score was 74(62-95), higher than population norms. In the interviews, a predominant theme that emerged was that adversity in the earlier years would better help develop resilience as opposed to later years in life. Traits of self-awareness, perseverance, optimism were the most predominant in contributing to resilience. Strategies such as seeking support (from colleagues and mentors), prioritisation, reflection and altering one's perspective were the top 3 strategies identified in our study group.

**Discussion and Conclusions:** While those interviewed felt resilience was in part innate to an individual, they all expressed that resilience is a skill that can be learned through self-reflection, and taught with the help of a mentor- through equipping the individual with the skills to manoeuvre through adversity and by cultivating traits and strategies described above as a framework for the young physician. Early adversity in residency training should be seen as an opportunity to develop resilience, while ensuring appropriate support and guidance to avoid burnout.

**Take-home Messages:** Resilience is a trait that can be taught and cultivated. Senior physicians have acquired skills which residents can learn from to build their own resilience and to retain job satisfaction without succumbing to burnout. Reflection was crucial in development of resilience where mentorship would be able to facilitate this process. Adversity in early training years can be used as an opportunity to train resilience.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM11 (229)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Stress and Depression as a medical Intern, Police General Hospital

#### AUTHOR(S):

- Savanya Nganvivattavorn, Police General Hospital and Vachira Phuket Hospital, Thailand (Presenter)
- Nattapong Khulasittijinda, Police General Hospital, Thailand
- Krekkamon Yamprayune, Police General Hospital, Thailand

#### ABSTRACT

**Background:** Internship in Police General hospital (PGH) is international medical graduates with a role to work as a junior doctor and to complete all 3 steps of Medical National license examination (NLE) issued by Thailand Medical Council (TMC) in the same time. They must facing with excessive demand on coping abilities in physical, emotional, intellectual, and financial and many possible factors contribute to high level of stress and depression.

**Summary of Work:** The descriptive cross sectional study was conducted in the Police general hospital, Thailand. Sixty-three internships were included. Research questionnaire is composed of personal data , personal stress questions and PHQ9 for depression screening approved by Thailand mental health . This study was analyzed about prevalence of stress and depression, the risk factor of stress and depression and finds a solution to solve the problem.

**Summary of Results:** 95.2% of interns have stress (52.4% in normal level, 30.2% in mild degree, 7.9% in moderate degree, 4.8% in severe degree). 47.6% of interns have depression (42.9% in mild degree, 3.2% in moderate degree, 1.6% in severe degree). The maximum stressful department is Medicine, following Obstetrics-Gynecology and Surgery. The affected factor to stress and depression is NLE, working with pressure in hospital, inadequate relax time.

**Discussion and Conclusions:** Internships under high-stress tended to have a depressive mood, especially in some specific ward rotations. Good support system including mentor and institutional resources might help them to deal with the stressful events. In addition, reasonable extracurricular activities should be arranged to suit the internship preference such as music therapy, sports or New year party. Clinical practice medicine should be more than a year in international medical graduates and being as a long life for all physician.

**Take-home Messages:** • Why work-life balance never be in lecture ? • stress free environment will encourage learning and teaching more effective. • Teach them to treat a man; don't forget to treat them as a man too.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM12 (469)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level o

### Targeted remediation for Postgraduate Year 1s (PGY1) in difficulty: Our Experience

#### AUTHOR(S):

- Yong-Kwang Tay, Changi General Hospital, Singapore (Presenter)
- Yvonne Guat Keng Goh, Changi General Hospital, Singapore

#### ABSTRACT

**Background:** Postgraduate Year 1 (PGY1) forms the transitional year from undergraduate medical education to full medical registration. In 2014, the National PGY1 Training and Assessment Framework was formalized and adapted from the 6 ACGME competencies of patient care, medical knowledge, practice-based learning, interpersonal and communication skills, system based practice and professionalism.

**Summary of Work:** The aim of the study was to formulate better, targeted remediation plans for PGY1s in difficulty. During their three 4-monthly rotations, the PGY1s competencies in the 7 Entrustable Professional Activities (EPAs) were assessed by senior doctors (registrars and consultants), peers and other healthcare professionals in the team.

**Summary of Results:** From 2014 to 2017, 833 PGY1s passed through the departments of Internal Medicine (IM), General Surgery (GS) and Orthopaedics (Ortho). There were 9 PGY1s (8 males, 1 female) who failed during this period. Eight PGY1s who failed were foreign graduates while 1 was a local graduate. A common theme was a lack of medical knowledge which affected their patient care.

**Discussion and Conclusions:** Interventions have been put in place, including a job-shadowing stint (1 to 3 days), hospital orientation briefing (1/2 day) that covers topics like safe medication practice, and computer training. Foreign medical graduates are rotated to do 2 IM postings (instead of 1) and Ortho is not a compulsory rotation as some of them have limited undergraduate exposure to Ortho. At least 94% of the foreign graduates polled wanted a longer job-shadowing stint of at least 5 days. The main reasons identified by the PGY1s were a need to familiarise themselves to local hospital's systems-based practice and computer systems. The number of PGY1s who failed was small; most of them were males, and from foreign medical schools.

**Take-home Messages:** Foreign medical graduates may have gaps in medical knowledge due to their medical school exposure. Focus group discussions can be done to find out how we can better help them adapt and adjust to the local healthcare system.



## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM13 (1299)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Leading help-seeking practice in the hospital-based post-registration training environment

#### AUTHOR(S):

- Nicole Jones de Rooy, Australian National University, Australia (Presenter)
- Imogen Mitchell, Australian National University, Australia
- Gary Rogers, Griffith University, Australia
- Nicolas Glasgow, Australian National University, Australia

#### ABSTRACT

**Background:** Junior doctors' help-seeking is an important day-to-day occurrence in the hospital-based post-registration training environment, commonly described to involve the simple escalation of a problem to a more senior clinician. This research challenged this assumption by exploring what is essential to both junior doctors' help-seeking and the provision of support for help-seeking by senior doctors and nurses.

**Summary of Work:** Three studies were completed and then integrated to reveal what is essential for help-seeking practice, offering strategies to improve and lead help-seeking practice as key components of post-registration education into the future.

**Summary of Results:** The findings confirmed that help-seeking was often not merely a simple escalation, but involved several constituents that highlighted the complex social, cognitive and affective judgements and actions integral to seeking help. For help-seeking to be successful, it was important that junior doctors: recognise a problem with a patient; discern their own ability to manage the problem alone; and judge their professional 'safety' in seeking help. Additionally, to support junior doctors' help-seeking successfully, it was important that senior colleagues: gauge the junior doctor's priorities through clinical interactions; set expectations and tailor support specific to help-seeking; promote and guide the use of proactive tactics; and voice their intentions to support the junior doctor's help-seeking.

**Discussion and Conclusions:** There is limited research on help-seeking in the clinical training environment, therefore this study is a significant step towards acknowledging the importance of help-seeking practice and how help-seeking can be advanced into the future. Leaders in health professional education can improve help-seeking practice for junior doctors by employing the strategies that ensure junior doctors and senior clinicians take the time to reflect on their help-seeking practice experiences and have priority access to help-seeking practice training to ensure readiness for working and supervising in the post-registration training environment. Junior doctors' help-seeking and supporting junior doctors' help-seeking practice is important and will be one of the many phenomena needing advancement to ensure that practitioners are able to seek help and receive the best of it.

**Take-home Messages:** Help-seeking is important, discuss with your colleagues how best to support and lead help-seeking practice.

## #9MM Posters - Postgraduate: Stress and Wellbeing

### 9MM14 (1127)

**Date of Presentation:** Tuesday, 27 August 2019

**Time of Session:** 1600-1730

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluating Differences in Emotional Weaknesses between Intern Doctors and 6th Year Clerks in Taiwan through Emotional Competence Training Curriculum

#### AUTHOR(S):

- Chun-Lin Chu, National Taiwan University Hospital Yun Lin Branch, Taiwan (Presenter)
- Huei-Ming Yeh, National Taiwan University Hospital and National Taiwan University College of Medicine, Taiwan
- Shao-Yu Chang, Oriental Institute of Technology, Taiwan
- En-Chi Liao, National Taiwan University Hospital and National Taiwan University College of Medicine, Taiwan
- Fu-Chang Tsai, National Taiwan University College of Medicine, Taiwan

#### ABSTRACT

**Background:** As being clinical starters, medical students were known inevitably to face huge challenges caused by turbulent stressful clinical environment. There were so many teaching projects in medical education now focusing to lower medical students' burn out and help them overcome these stressful situations during this pivotal time. However, evaluating stressful emotions correctly and identifying deficits of emotional competence skills is crucial in medical education.

**Summary of Work:** We would like to evaluate the difference of stressful emotions and the deficits of emotional competence skills between intern doctors and 6th year clerks in Taiwan through Emotional Competence training curriculum. We conducted a comparative Emotional Competence training curriculum in medical school both for 8 6th Year clerks and 9 intern doctors in NTUH in Taiwan to evaluate stressful emotions they actually had in their clinical practice through analyzing oral diary they recorded in the curriculum in 2016 and 2018. And then we identified and categorized the emotional competence skill needs from the difficult emotional events according to Daniel Goleman's Emotional Competence framework (1995).

**Summary of Results:** We found significant differences of emotional competence skill deficits between these two groups of medical students. In total 46 oral diaries from 6th Year clerks, they apparently showed high deficits of self-management (35.2%) and self-awareness(31%) fields of emotional competence skills, both belonging to the personal competence category. However, the 20 oral diaries recorded by the intern doctors showed high deficits of relation-management (33.8%) and self-awareness (25.4%) fields of emotional competence skills, belonging to social competence and personal competence separately.

**Discussion and Conclusions:** The results demonstrate that 6th Year clerks need self-awareness and self-management skills most to cope with stressful emotions and they are burnt out for low self-confidence in clinical knowledge and low self-control in their practice environment. However, comparing to clerks, intern doctors usually felt highly stressful only when they communicated and collaborated with team members or patients, which belonging to relationship management field.

**Take-home Messages:** Medical education training projects should focus on different teaching goals to specifically target medical students' emotional competence skill needs corresponding to their specific clinical emotional disturbances, then can actually lower down medical students' burn out effectively in their clinical environment.

## #9NN Meet the Experts – Patient as Educator

**Date of Session** Tuesday, 27 August 2019

**Time of Clinic:** 1600-1730

**Location of Clinic:** Suite E, Level 0

**Experts:**

- Susan E. Sheridan, Society to Improve Diagnosis in Medicine (SIDM), USA
- Suzanne Schrandt, Arthritis Foundation, USA

**Summary:** Talk with our two plenary speakers about the value of using patients in the education process, and what you need to think about if you are considering implement this into your curriculum.



## #10A Symposia

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-1015

**Location of Presentation:** Hall A, Level 2

### Achieving Practice Change through Outcomes Based CPD

#### Presenters:

- Betsy White Williams, University of Kansas School of Medicine, Professional Renewal Center®, USA
- Mary Turco, Department of Medicine, Dartmouth-Hitchcock and Geisel School of Medicine, Lebanon, USA
- David Davis, Mohammed Bin Rashid University of Medicine and Health Sciences, Dubai, United Arab Emirates
- David Wiljer, Education Technology Innovation, University Health Network; Department of Psychiatry, University of Toronto, Canada
- Helena Filipe, Faculty of Medicine, University of Lisbon, Portugal
- Mila Kostic, Penn Medicine, USA
- Sanjeev Sockalingam, Department of Psychiatry, University of Toronto, Canada

**Summary of theme and why it is important:** Continuing professional development is critical to sustained life long learning and the delivery of effective and high quality care based on the best available evidence. Traditional methods of continuing professional development have not often resulted in sustained practice change. This has resulted in a renewed call for outcomes focused continuing professional education.

In this symposium we will highlight key principles and theories that inform scholarly, effective CME/CPD programs. Learners will have the opportunity to hear multiple different examples of scholarly CME/CPD activities that incorporate best practice in program design and outcome measurement. We will achieve this through rapid-fire short focused panellist examples from international experts in the field. Participants will have the opportunity to incorporate these principles and think about how they might start a process of incorporating these principles into their CME/CPD programming.

This symposium will focus on effective methods of outcomes based continuing education that lead to shifts and change in knowledge, skills and attitudes. The symposium will include discussion of the role of theory in driving practice change. We will explore the role of developing master and adaptive learners who can rapidly adapt to transformational change in the clinical and practice environment. We will offer practical approaches to incorporating practice improvement and quality improvement methods into continuing education. These examples may include the use of practice data, audit and feedback, morbidity and mortality rounds, communities of practice and information systems. The symposium will explore issues of feedback, mentorship and professionalism within the paradigm of life long learning in order to enable health professionals to adapt to new knowledge through shifts in skills and attitudes.

Symposium participants will be asked to think about how they might begin a process of designing CME/CPD outcomes based programming that follows the principles of a scholarly CME/CPD activity. They will discuss challenges and solutions to designing and implementing these approaches as part of CPD programming.

**Who should participate in the symposium?** This symposium will be applicable to all AMEE participants who are interested in outcomes based education and in particular outcomes based CPD. In addition, this will be of particular interest to attendees who are involved in the administration, delivery and research of continuing education activities. In addition, this will be important for students and learners as they are thinking and planning around life long learning.

**What will they gain from participating?** Participants will hear from a diverse group of world experts working in outcomes based education. This will result in a rich conversation around outcomes based education with practical examples and concrete tools and lessons to apply in their own contexts.

## #10B Symposia

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-1015

**Location of Presentation:** Hall C, Level 2

### The 21st century medical undergraduate curriculum: What's in and what's out?

#### Presenters:

- Val Wass, Keele University UK
- Peter Dieter President AMSE, Germany  
Neil Johnson, Chief Executive - Croi, The West of Ireland Cardiac & Stroke Foundation, Ireland
- Evangelos Papageorgiou, EMSA Medical Education Liaison Officer, Greece
- Harm Peters, Executive Committee, AMSE, Germany
- Trudie Roberts, President, AMEE, UK
- Catarina Pais Rodrigues, Medical Education Director in IFMSA, Portugal
- Fedde Scheele, Professor in Health Systems Innovation and Education, Netherlands

**Summary of theme and why it is important:** As highlighted in the Lancet report<sup>1</sup> “Health Professionals for a New Century” radical change is needed if we are to produce a workforce fit for purpose for the 21st century. The rapid changes we face in population needs and health care delivery are placing unacceptable pressure on the clinical workforce globally. The AMEE 2018 conference highlighted many areas where the undergraduate curriculum needs to adapt to encompass increasingly important areas: social accountability; public health, artificial intelligence, organisational management to name a few. At the same time medical students are bringing different approaches to learning which challenge traditional educators. We can no longer “add in” to the curriculum without “taking out”. Yet this in turn meets resistant from educators set in their established ways and can even threaten their job plans.

These issues must be tackled. This AMEE-AMSE-joint symposium will open transparent debate with all stakeholders interested in medical curricula development and delivery. Panel members will offer brief presentations raising questions to then fuel an interactive discussion session.

<sup>1</sup>[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)61854-5/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61854-5/abstract)

**Who should participate in the symposium?** All stakeholders: students, trainees and clinical educators. We hope to include the patient perspective on the panel. We believe this is a topic challenging many AMEE and AMSE members.

**What will they gain from participating?** A deeper understanding of evidence for change and how the medical curriculum can be revolutionised or evolved to follow the recommendations of the Lancet report. A topic essential given the current workforce crisis internationally.



## #10C Symposia

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-1015

**Location of Presentation:** Hall N, Level 1

### Case Based Blended Learning (CBBL) – a strategy to foster the transfer of declarative to procedural knowledge or more?

**Presenters:**

- Sebastian Ertl, Medical University Vienna, Austria
- Bela R. Turk, Medical University Vienna, Austria and Johns Hopkins University, Baltimore, USA
- Tamara Seitz, Dept. for Internal Medicine, General Hospital Vienna, Austria
- Monika Himmelbauer, Medical University Vienna, Austria
- Isabella Klaus, Dept. for Psychiatry, General Hospital Vienna, Austria
- Henriette Löffler-Stastka, Medical University Vienna, Austria

**Summary of theme and why it is important:** The close connection of theory and practice is a common aim of Case Based Learning courses, as is the development and fostering of the transfer from declarative to procedural knowledge. This transfer-learning in medical education has been highly advocated in the 2010 Lancet report.

The aim of the first study is to show how procedural knowledge, measured as students competence performing three procedural clinical reasoning skills could be improved by a case based blended curricular element, consisting of eLearning cases with interactive questioning format and clinical training seminars with standardized patients.

The aim of the second paper is to show, how a case-based, e-learning system influences the learning effectiveness and grades among medical students at the medical university of Vienna (and pharmacy students at the faculty of life science at the University of Vienna). This study was designed to measure and quantify the potential of e-learning as a new teaching technique.

The third paper reports the students' satisfaction and acceptance of the implemented case based eLearning program in the fields of psychiatry, microbiology and laboratory medicine and orthopedic surgery pointing on the value of autonomous motivation and affective involvement fostering efficient learning styles. Fourth, the clinical case/standardized patients (SP) - based training seminars and the importance of the quality of the SP's roleplay and feedback are presented as one part of the didactic efficiency. Another important aim while fostering procedural knowledge is the development of metacognitive reflecting functioning in clinical practice. Possibilities of implementation are shown in the fifth paper. Last, an international comparison of case-based eLearning methods (Basel, Vienna), including the comparison of distant learning and blended learning (Vienna, London) is presented.

**Who should participate in the symposium?** Persons, who are interested in didactic considerations to foster international, multidisciplinary team work and new eLearning methods.

**What will they gain from participating?** Get insight into procedural skills training, its interdependence with learning surroundings and autonomous motivation

## #10D Symposia

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-1015

**Location of Presentation:** Room L3, Level 1

### **XVII Ibero-American session - Highlighting differences in the way Primary Care is delivered on the American Continent: Impact of the Cartagena Declaration**

**Presenters:**

- Geneviève Moineau, Canada
- Liliana Arias, Colombia
- Alison Whelan, USA
- Ricardo León, México
- Luis Felipe Abreu, México
- Pablo Pulido, Venezuela

**Summary:** Since the Declaration of Alma Ata 40 years ago, every country of the world has applied the recommendations regarding primary care (PC) delivery differently. The American Continent is no exception and the way PC is offered in North America, is dissimilar than in Central or South America, and the results vary independently of the investment each country makes.

At the end of the Pan-American Conference of Medical Education that took place in Colombia in April of this year, members of the Pan American Federation of Associations of Medical Schools (PAFAMS) signed the Cartagena Declaration. This Declaration emphasized their desire to contribute to the improvement of the continent's health by highlighting prevention and encouraging universal coverage of health services through increased access and quality. As envisioned in the Declaration, medical schools and hospitals should be part of a comprehensive model highlighting primary care, the necessity of quality measures, and the timely access to health interventions. The Declaration calls for an emphasis on population health that promotes prevention, a reduction of the disease burden, and a special focus on populations that have traditionally been marginalized or are especially vulnerable. Community engagement at every level is promoted. The Cartagena Declaration recognizes the critical role medical schools play in preparing physicians to achieve this vision and the need for them to fully embrace their community mission and assist in the development of high quality, accessible health systems.

Representatives of different American countries will discuss how PC delivery is changing in their countries, explore new concepts for implementing the Cartagena Declaration, and discuss the critical role of medical education in achieving this vision.

## #10E Short Communications - Teaching and Learning: Self Directed Learning

### 10E1 (3365)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Hall M, Level 1

### Guided self-study in higher education - a literature review

#### AUTHOR(S):

- Slavko Rogan, Bern University of Applied Sciences, Department of Health, Switzerland (Presenter)
- Jan Taeymans, University of Applied Sciences, Department of Health, Switzerland
- Evert Zinzen, Vrije Universiteit Brussel, Faculty of Physical Education and Physiotherapy, Belgium

#### ABSTRACT

**Background:** Following the Bologna reform, higher education should offer evidence-based methods to foster self-directed learning processes to improve practical skills. To date, there have been but few recommendations of how a guided self-study method in undergraduate physiotherapy curricula should be built up and conducted.

**Summary of Work:** A systematic literature search performed in CINAHL, Embase, ERIC, PubMed and Web of Science. Additionally, a manual search was carried out in the reference lists of the surveyed studies.

**Summary of Results:** The literature search yielded 1076 articles. After deletion of 289 duplicates and exclusion of 889 articles, eleven articles were included in this analysis. All the included articles investigated the individual self-study method. Of these articles, two studies had a qualitative study design while nine had a quantitative study design.

**Discussion and Conclusions:** This literature review summarized the findings of published studies that evaluated the effectiveness of self-study units in medical education, health-professional education and physiotherapy education. Based on these results it seems that for a well-structured guided self-study in higher education curriculum provides a combination of individual learning, group learning and accompaniment by university teachers during the processing phase.

**Take-home Messages:** Guided self-study should be implemented in health professional education curriculum and medical education curriculum. The structure of guided-self study is based on a problem-based learning method on a flipped-classroom method. Guided self-study is summarized in five learning support phases: 1. preparation and initiation phase as group work, one week in advance, 2. realization phase: coaching, 3. realization phase: controlling, 4. presentation phase, and 5. assessment and feedback phase.

## #10E Short Communications - Teaching and Learning: Self Directed Learning

### 10E2 (2557)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Hall M, Level 1

### Are task specific self-regulatory processes consistent across task and time? A study of physiotherapy students

#### AUTHOR(S):

- Raquel Irina Medina-Ramirez, Universidad De Las Palmas De Gran Canaria, Spain (Presenter)
- Felipe Rodríguez de Castro, University of Las Palmas De Gran Canaria, Spain
- David Álamo-Arce, University of Las Palmas De Gran Canaria, Spain
- Dario Cecilio-Fernandes, University of Groningen and University Medical Center Groningen, the Netherlands.
- John Sandars, Edge Hill University, UK
- Manuel João Costa, University of Minho, Portugal

#### ABSTRACT

**Background:** The Self-Regulated Learning Microanalysis method (SRL-microanalysis) differentiates self-regulatory profiles of poor performing students. In this study, we used SRL-microanalysis to evaluate the consistency of task specific regulatory profiles of physiotherapy students across two tasks -shoulder and ankle goniometry measures- at two specific time points, three months apart.

**Summary of Work:** Fifty-five out of 120 students were evaluated at time 1 and 37 (67%) of them at both time 1 and 2. Each student was evaluated by SRL-microanalysis protocol that elicited key SRL processes in the forethought, performance and self-evaluation phase of the task. We analyzed performance and the SRL profiles for each task at each particular point in time.

**Summary of Results:** The performance in shoulder and ankle goniometry, respectively, in both moments was correct for 71% and 43% and incorrect for 21% and 19% of the participants. 8% (shoulder) and 24% (ankle) improved from incorrect to correct. There were 14% of students who evolved from correct to incorrect in ankle measures. The self-regulatory profiles of successful students in both moments for both tasks were sophisticated: an average of 89% planned, monitored and self-evaluated. These differed from students with incorrect performances: 74% planned the task, but self-monitoring changed from 40% in moment 1 to 60% in moment 2. Students who improved performances have increased their planning (66% to 94%) and self-monitoring (44% to 84%) over time. Also, students who showed worse ankle measurements were mostly unable to self-monitor in both moments (30%).

**Discussion and Conclusions:** Overall, students with correct performances showed greater self-monitoring as compared to low performing students. Improvement in performances was associated to improvement in SRL processes. Self-regulatory processes were consistent across tasks, although there were variations across time. This innovative study suggests associations between task specific performance of physiotherapy students across two tasks and self-regulated learning. The consistency across tasks advocates that students who improve self-regulation in one task may be able to transfer SRL to another task.

**Take-home Messages:** Self-regulated microanalysis may assess and inform the development of self-regulated learning (SRL) skills of undergraduate students.

## #10E Short Communications - Teaching and Learning: Self Directed Learning

10E3 (535)

Date of Presentation: Wednesday, 28 August 2019

Time of Presentation: 0900-0915

Location of Presentation: Hall M, Level 1

**Using path analysis to develop a conceptual model that shows the interaction between conceptions of learning, self-regulated learning (SRL) and quality of e-learning experience in online e-learning**

### AUTHOR(S):

- Enjy Abouzeid, Faculty of Medicine- Suez Canal University, Egypt (Presenter)
- Rebecca O'Rourke, University of Leeds, UK
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### ABSTRACT

**Background:** The use of online learning is increasing in Health Professions education nowadays. However, the full understanding of the pedagogy of learning in this unique learning context is still insufficient. This raised the need for exploring the relationships between different factors that may affect learning in this context.

**Summary of Work:** A cross sectional study was performed to develop a model that explains the relationships between external (Quality of e-learning experience and interactivity) and internal factors (learner's behaviors and beliefs) that are assumed to dynamically interplay for achievement in online e-learning. A non- probability convenience sample of 128 learners in a Health Professions Education program through distance learning were recruited in the study. Three self-reported questionnaires (online self-regulated learning questionnaire, e-learning experience questionnaire and Mental model of Inventory of Learning Styles) were used. While the interactivity was assessed by three independent raters using a scoring rubric. Person- moment correlation and path analysis were used to investigate the relationships between the variables.

**Summary of Results:** The path analysis revealed a generally accepted model. It showed good fitness indices and strong significant relations between the variables. Based on the Model, SRL was accounted for small portion of the change in academic achievement. Active conception of learning significantly affects the quality of e-learning experience that in turn has a significant relation with SRL. Online discussions directly and significantly affect the academic achievement.

**Discussion and Conclusions:** The conceptual link between the current study variables should be tracked to the role of conceptions of learning on learner-content interaction and satisfaction. The active conception of learning might lead to 'getting involved' in learning, which in turn had a positive effect on learning since it enabled a process of constructing meaning. Additionally, this active involvement and satisfaction also foster their self-regulation skills to control their learning environment to reach their goals. Conclusions: This combination of findings provides support for the conceptual premise that reinforces the relation between personal, environmental and behavioral aspects in online e-learning.

**Take-home Messages:** In online e-learning there are a significant dynamic interaction between active conception of learning, the learning experience and self-regulated learning skills.



## #10E Short Communications - Teaching and Learning: Self Directed Learning

**10E4** (2448)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Hall M, Level 1

### Developing Effective Learning Strategies in Medical Education - A Mixed-Method Study

#### AUTHOR(S):

- **Felicitas Biwer, Maastricht University, the Netherlands (Presenter)**
- Anique de Bruin, Maastricht University, the Netherlands
- Pauline Aalten, Maastricht University, the Netherlands
- Mirjam oude Egbrink, Maastricht University, the Netherlands

#### ABSTRACT

**Background:** In medical education, self-regulated learning is an important competence. Students need to be able to monitor and regulate their learning and to apply effective learning strategies that enable long-term learning. Cognitive research has shown that strategies that make the learning process more difficult ('desirable difficulties'), by stimulating retrieval of information from memory, enhance learning in the long term. However, 60-90% of the students regularly use ineffective strategies, such as rereading. Students are barely taught what strategies enhance long-term learning and struggle to use more effective, but also more effortful strategies.

**Summary of Work:** In this mixed-methods study, we examined the effect of a learning strategy training on metacognitive knowledge and use of effective learning strategies and explored barriers and facilitating factors in using effective learning strategies. Forty-seven medical, biomedical and health sciences students were randomly assigned either to three training sessions about awareness, reflection, and practice on learning strategies and desirable difficulties, or to a control condition. Knowledge and use were measured by pre- and post-questionnaires and vignettes. In follow-up focus group discussions, we examined experienced barriers and facilitating factors.

**Summary of Results:** Metacognitive knowledge improved after having attended the training. We found a discrepancy between knowledge and use. The training reduced this discrepancy with regard to the effective strategy 'quizzing'. Experienced barriers in using effective learning strategies were insecurity about the correct usage of specific strategies, sticking to old study habits and not acknowledging the benefits of investing more effort. Facilitating factors were the availability of practice questions and getting support in changing passive strategies into an active way of studying.

**Discussion and Conclusions:** This study stresses the importance of not only informing students about effective learning strategies and desirable difficulties, but also to offer support in adding active learning principles to old study habits. With regard to the challenge of becoming a self-regulated doctor, medical students need more support in developing the skills of becoming a self-regulated learner who can build up long-term knowledge.

**Take-home Messages:** The learning strategy training improved medical students' metacognitive knowledge accuracy and fostered the use of an effective learning strategy, i.e., quizzing.

## #10E Short Communications - Teaching and Learning: Self Directed Learning

**10E5** (2754)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Hall M, Level 1

### The evaluation of a personalised electronic clinical skills passport (CSP): The medical student perspective

#### AUTHOR(S):

- Laura Smith, University of Leeds, UK (Presenter)
- Rebecca ORourke, University of Leeds, UK
- Jennifer Hallam, University of Leeds, UK

#### ABSTRACT

**Background:** Upon graduation, medical students must be able to evidence that they demonstrate the necessary knowledge, skills and attitudes to enable them to practice unsupervised (Ten Cate & Scheele, 2007). In 2016, the CSP was launched with a focus on engagement with mandatory clinical skills and to demonstrate proficiency and progression. Embedding this practice in the early stages of their education should enable them to develop strategies for lifelong learning.

**Summary of Work:** This evaluation focused on student engagement with the CSP and how this impacted on the development of self-regulated learning behaviours. The aim was to establish how students are using this innovative mobile application and how this influenced their workplace learning. Two hundred and sixty year three medical undergraduates, who had been using the CSP app for three years, were surveyed in order to identify usage patterns to gain a clearer understanding of how the innovation is supporting student education. Students were then followed up using 1:1 interviews to explore the narratives around the different engagement patterns.

**Summary of Results:** The factors that influenced engagement with the CSP were explored and it was identified that if the design of the assessment is less intuitive this prompts disengagement from supervisors and students and that supervisor attitude towards technology was found to be an influential factor. Students indicated that having knowledge of safe-practice limits and the immediate access to a complete clinical skills list provided them with the opportunity to plan their learning and gave them confidence to seek out feedback interactions.

**Discussion and Conclusions:** Students supported the use of mobile technology to record their clinical skills acquisition, seek out feedback opportunities and plan their learning opportunities. Assessment design, supervisor attitude towards technology and understanding assessment purpose were found to be influential factors in student engagement with the mobile app and can affect the quality of the assessment process.

**Take-home Messages:** Mobile technology is providing a valuable platform to monitor and support student learning and improve self-regulated learning behaviours. The ability to track clinical skills acquisition longitudinally has multiple benefits for student education, teaching quality and workplace learning.

## #10E Short Communications - Teaching and Learning: Self Directed Learning

**10E6** (294)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Hall M, Level 1

### Understanding Medical Students' Self-Directed Learning in Clinical Training: A Cross-Cultural Qualitative Study in the U.S. and Taiwan

#### AUTHOR(S):

- Tzu-Hung Liu, Harvard Medical School, USA (Presenter)
- Kai-Kuen Leung, National Taiwan University College of Medicine, Taiwan
- Amy Sullivan, Harvard Medical School, USA

#### ABSTRACT

**Background:** In most Asian countries, medical education reforms in recent decades have adopted a Western model that emphasizes an individualistic, student-centered model of education. The applicability of this model to education in Asian medical education setting has not been examined. Self-directed learning (SDL) in the clinical environments is a particularly important Western construct that may be difficult to translate in other cultural settings.

**Summary of Work:** We carried out a cross-cultural qualitative study for undergraduate medical students at Harvard Medical School (HMS) and National Taiwan University College of Medicine (NTUCM). Those who recently finished core clerkships were recruited for our study. We conducted a total of 30 semi-structured interviews with 15 HMS students and 15 NTUCM students representing all the affiliated hospitals where students had core clerkships. Using the thematic analysis, we identified the codes and emerging themes from the transcripts.

**Summary of Results:** Our findings indicate that there do exist differences in SDL, including the use of online resources, cognitive strategies, feedback seeking behaviors, and mindset assumptions, between the two groups of students. The study revealed that during the core clerkship, HMS students focus more on individual performance and put effort into impression management, while NTUCM students tend to learn more collaboratively, share resources with and support their peers.

**Discussion and Conclusions:** Our study delineates the essential components of SDL in core clerkship in the contexts of both the U.S. and Taiwan. We also found that hierarchies and working flows are present as regulators of roles and interactions in clinical practice and have impacts on the learning for both groups of students. A supportive environment with faculty development that helps novice students to navigate the learning experiences will contribute to students' overall strategies for SDL.

**Take-home Messages:** Comparing student perspectives of SDL in different settings may yield new insights into the Western model of SDL and allow schools in East Asian countries to formulate contextually- and culturally-appropriate adaptations.

## #10F Short Communications - International Dimensions

### 10F1 (453)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room L6, Level 1

### Learning Preferences of Medical Students: International Similarities and Differences

#### AUTHOR(S):

- **Mike Elnicki, University of Pittsburgh, USA (Presenter)**
- Jonathan Berken, University of Pittsburgh, USA
- John Mahoney, University of Pittsburgh, USA
- Jumana Al-baghli, Kuwait University Faculty of Medicine, Kuwait

#### ABSTRACT

**Background:** While recent reforms in medical education favor active, self-directed learning, educators appreciate that students learn differently. Matching students to teaching methods is difficult, as individual approaches to mastery and competency vary. We sought to explore and categorize the learning preferences of students at two medical schools that differ in many respects but are both committed to diverse learning methods.

**Summary of Work:** Matriculating medical students at the University of Pittsburgh School of Medicine (UPSOM) and the Kuwait University Faculty of Medicine (KUFOM) completed anonymous questionnaires prior to beginning their respective curricula. Students rated 25 instructional methods with 1-5 Likert type scales (5= best). We asked students about their perceptions of learning. We chose 'the faculty is responsible for learning' as a marker of traditional learners, while preferring 'small-group learning' identified self-directed learners. Analyses were performed with Wilcoxon signed-rank test, Spearman's rho and linear regressions.

**Summary of Results:** We received responses from 92 UPSOM and 90 KUFOM (63% and 82%) students. UPSOM students most valued experiencing practical tasks (4.3, SD .9) and explaining tasks to others (4.3 SD .8). KUFOM students most valued watching educational videos (3.9, SD 1.3) and explaining tasks to others (3.8, SD 1.4). We noted several differences between schools. For example, UPSOM students more highly valued lectures (3.8 v. 3.4,  $p=.03$ ), while KUFOM students valued workshops more highly (3.6 v. 3.1,  $p<.01$ ). Traditional learners from both schools preferred lectures and asking faculty questions. Self-directed learners valued help from other students and asking questions in small groups (all  $\rho >.2$  and  $p<.05$ ).

**Discussion and Conclusions:** Although we found some differences between UPSOM and KUFOM students, both groups contained both traditional and self-directed learners. Traditional learners still prefer lectures and gaining information directly from faculty, while self-directed learners favor group interactions and peer support.

**Take-home Messages:** Incorporating a recognition of these differences may make instruction more effective and enjoyable for students. Curriculum construction could reflect students' learning preferences, and educators can guide students accordingly.

## #10F Short Communications - International Dimensions

### 10F2 (2566)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room L6, Level 1

### Exploring the validity of hegemonous competency frameworks for health professions education in the global south

#### AUTHOR(S):

- Francois Cilliers, University of Cape Town, South Africa (Presenter)
- Jose Frantz, University of the Western Cape, South Africa
- Lionel Green-Thompson, Sefako Makgatho Health Sciences University, South Africa
- Marykutty Mammen, University of Fort Hare, South Africa

#### ABSTRACT

**Background:** Competency-based frameworks developed in the global north have disseminated across the globe, just as problem-based learning and Tomorrow's Doctors were influential in shaping curricula in decades past. The purpose of this study was to explore competency requirements for graduates across health professional disciplines in a southern context, to offer a contextualised perspective on competency frameworks.

**Summary of Work:** A reference group experienced in health professions education (HPE) was established to identify core competencies that a newly-graduated South African health professional should exhibit. Individual, semi-structured interviews were undertaken with ten key informants, representative of the HPE sector, the health care sector (private and public) as well as national and provincial departments of health. Initial open coding by four researchers unconsciously tracked the roles of existing competency frameworks. Researchers had to consciously discard this unwitting bent to undertake a more critical inductive analysis of the data.

**Summary of Results:** Data analysis yielded constructs related to the self, others, the healthcare system and the societal context. Six constructs were identified in addition to foundational clinical skills. 'Capacitation for a messy reality' and 'the ability to survive and flourish' relate to working in under-resourced settings; the former relates to contextually-appropriate competence for such settings, transcending the idea of an effective, safe clinician; the latter encompasses a set of resilience-related competences. 'Social accountability' related to the responsible exercise by graduates of the privilege that accrues to them on graduation. 'Collaboration' entailed meaningful engagement with patients, communities and colleagues. 'System engagement' relates to not only serving but also improving the health system. 'The profession in context' emphasised professions' relations to other professions and society.

**Discussion and Conclusions:** While these constructs can be related to existing frameworks, such frameworks are not a good fit for our context, exposing potential gaps that could leave our graduates ill-equipped to meet the demands that will be made of them.

**Take-home Messages:** Researchers and practitioners in the global south should consciously adopt a critical stance towards frameworks developed elsewhere. Minor tweaking of such frameworks does not do justice to the needs of HPE, patients and communities in the global south.



## #10F Short Communications - International Dimensions

### 10F3 (1175)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room L6, Level 1

### Educational globalisation: implications of similarities and differences in cultural dimensions across medical students from fifteen different countries

#### AUTHOR(S):

- Young-Mee Lee, Korea University College of Medicine, South Korea (Presenter)
- Lynn Monrouxe, CG-MERC, Chang Gung Memorial Hospital, Taiwan
- Sze-Yuen Yau, CG-MERC, Chang Gung Memorial Hospital, Taiwan
- Mahwish Arooj, University of Lahore, Pakistan
- Teresa Pawlikowska, Royal College of Surgeons in Ireland, Ireland
- Orit Karnieli-Miller, Sackler School of Medicine, Tel Aviv University, Israel

#### ABSTRACT

**Background:** Curricula are never divorced from culture. However, established medical education programs are commonly transported into different cultures without sufficient consideration of student acceptance or local impact. Furthermore, today's globalisation era sees medical students seeking learning experiences worldwide. We therefore aimed to explore the cultural similarities and differences of participating medical students from different countries.

**Summary of Work:** We examined n=2,358 medical students' responses to Hofstede's (2013) cultural dimensions questionnaire across sixteen countries: Australia, Chile, China, Hong-Kong, India, Indonesia, Ireland, Israel, Japan, Pakistan, Malaysia, New Zealand, South Africa, South Korea, Sri-Lanka, Taiwan. Data were analysed following the VSM2013 manual by calculating country scores for Hofstede's six national cultural dimensions.

**Summary of Results:** A complex pattern was found across countries for Hofstede's dimensions. For example, for Long Term Orientation and Power Distance Indices, Australia and China were similar: Mean=27.71(SD53.29) vs 22.29(51.22), and 44.76(48.91) and 49.55(38.67) respectively. However, for Individualism and Uncertainty Avoidance Indices they differed: 66.0(48.68) vs 8.75(44.68) and 11.62(59.11) vs 64.96(51.28) respectively.

**Discussion and Conclusions:** Our results suggest that for certain cultural dimensions like Power Distance (i.e. acceptance of hierarchy), medical students across country cultures are similar, generally desiring justification for externally imposed hierarchies. But for dimensions where stark differences occur like Uncertainty Avoidance, implications should be considered for learning within the different curricula based in varying cultures. Within the context of multicultural educational settings, the transmission of ideas, values, and principles extend and intensify social relations. By understanding how different cultural groups converge but also differ, we can develop curricula to facilitate learning and local need, anticipating potential areas of cultural difficulty.

**Take-home Messages:** Medical schools need to consider the cultural make-up of their students in order to develop culturally-responsive educational programmes. In this era of educational globalisation, understanding the cultural contexts from which curricula are borrowed and into which they are implemented will ultimately facilitate student learning and patient care.

## #10F Short Communications - International Dimensions

### 10F4 (2265)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room L6, Level 1

### Peer observation of an online learning platform for undergraduates in Somaliland

#### AUTHOR(S):

- Rebecca Stout, University College London, UK (Presenter)
- Sarah Bennett, University College London, UK

#### ABSTRACT

**Background:** In 2013, there was a shortage of over seven million healthcare workers world wide. E-learning is increasingly recognised as a useful resource which has a global reach. The Kings Somaliland Partnership (KSP) works with universities in Somaliland to deliver undergraduate medical education. A growing area of this project is clinical reasoning tutorials delivered via an online, live and interactive platform. A pilot of peer observation of teaching (POT) was recently implemented for this setting. At present, there is little literature surrounding use of POT within the e-learning environment. The aim of this research was to evaluate the benefits and challenges that tutors perceive are associated with the peer evaluation of interactive e-learning to Somaliland undergraduates and how these may be overcome.

**Summary of Work:** Semi-structured interviews were conducted. Of nine people taking part in the POT pilot, five were interviewed. Interviews were stopped when data was believed to be saturated. Data was thematically analysed.

**Summary of Results:** Benefits associated with POT within an online setting included tutors reflecting on their own teaching, and seeing how other tutors delivered teaching within this innovative setting. Challenges included the difficulty in giving constructive feedback without receiving training on how to do this first, as well as the time commitment involved in the exercise. Some tutors described a community of teaching practice starting to be created through the ability to discuss issues with other tutors delivering similar teaching.

**Discussion and Conclusions:** This study is one of the first to examine POT within the e-learning medical education environment. It finds the use of POT within the e-learning environment can be a useful tool. The POT was carried out entirely electronically without tutors ever interacting orally or in person, however despite this tutors found it a beneficial exercise. It also suggests that POT within this environment can foster a teacher community, however also suggests that a further opportunity for tutors to discuss their teaching with each other would be required to fully create this.

**Take-home Messages:** POT may be used within the e-learning environment to foster a teacher community. Tutors should receive training in feedback prior to undertaking POT.

## #10F Short Communications - International Dimensions

### 10F5 (1287)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room L6, Level 1

### International & Digital Midwifery Workplace Learning Network: the first step in Rwanda

#### AUTHOR(S):

- Mieke Embo, Artevelde University College Ghent Belgium, Belgium (Presenter)
- Hilde De Grave, Artevelde University College Ghent Belgium, Belgium
- Donatilla Mukamana, University of Rwanda, Rwanda
- Olive Tengera, University of Rwanda, Rwanda
- Alice Muhayimana, University of Rwanda, Rwanda
- Josephine Murekezi, University of Rwanda, Rwanda

#### ABSTRACT

**Background:** Global disparities in the quantity, distribution and skills of health workers worldwide pose a threat to attainment of the Sustainable Development Goals by 2030 and deepens already existing global health inequities. Rwanda and other low-resource countries face a critical shortage of health professionals, particularly midwives.

**Summary of Work:** VLIR/UOS funded a two year project (2018-2019) between the University of Rwanda (UoR) and the Artevelde University College Ghent, Belgium (AUC). This project aims to contribute the government plans to increase capacity by improving the quality of midwifery clinical education. Design-based research methodologies are used to explore if the competency-based continuous workplace learning model (Embo et al., 2015) and the e-portfolio (Medbook) are feasible for clinical education in Rwanda.

**Summary of Results:** The model and e-portfolio appears applicable in the Rwanda context. Mentors and supervisors from Muhima and King Faisal hospitals and students from the UoR were trained. In 2018 mentors and supervisors from both hospitals supervised midwifery students from AUC (n=3). Students from UoR (n=6) started in January 2019. The research proposal was submitted to the Ethical Board of UoR. The study aims to investigate the perception of students, mentors and supervisors about the existing paper-based and the new online portfolio. The project was presented at 7 conferences and at the Belgian Embassy. Uganda joined the project and became the second country in the Network.

**Discussion and Conclusions:** The majority of intermediate results were attained. Nevertheless, the process shows that workplace learning is complex and that digitizing workplace learning encompasses all educational components. Furthermore, the team struggles with some barriers related to time, communication and administration. The sustainability of the project was an important issue that was addressed during the first year. Up to now, the design and method appears applicable in Rwanda but an evaluative study will give a more evidence-based answer.

**Take-home Messages:** By walking together, midwifery schools and hospitals in Belgium and Rwanda launched an International & Digital Midwifery Workplace Learning Network. This Network fits with the International Confederation of Midwives' mission: 'Strengthening Midwifery Globally by educating competent midwives who provide high quality, evidence-based health services for women, newborns, and childbearing families.'

## #10F Short Communications - International Dimensions

### 10F6 (174)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room L6, Level 1

### A continuous learning approach to improving the quality of care for children in Lao district hospitals

#### AUTHOR(S):

- Amy Gray, The University of Melbourne/Royal Children's Hospital, Australia (Presenter)
- Penny Wittick, The University of Melbourne, Australia
- Marianne Safe, The University of Melbourne, Australia

#### ABSTRACT

**Background:** In low-and-middle income countries 10-20% percent of sick children seen in primary care need referral to hospital “yet major gaps in the quality of care delivered in these facilities exist. There are existing resources and programs aimed at improving care in these setting. However they are often introduced in parallel, with different approaches to how the content is taught or learnt despite the fact they target the same learners, and/or rely on a similar pool of 'facilitators'.

**Summary of Work:** We developed a multifaceted intervention through which existing child health programs could be integrated in the way it they are delivered. We reviewed the literature on instructional design, choosing an education approach onto which content could be scaffolded over time based on learner's needs through repeated visits and flexible coaching modules. Coaching was delivered through 2 day visits to two hospitals 6-8 weeks apart also incorporating audit and feedback and collaborative curriculum design - with hospital staff prioritising their learning needs. We evaluated our approach using quantitative data on the quality of case management from medical records, and qualitative data from focus groups.

**Summary of Results:** Inpatient case management scores showed incremental improvement over time, from 50% at baseline to 80% at end-evaluation at Hospital A and 52% to 97% at Hospital B. Both hospitals demonstrated improvement in the proportion of cases in which weight was recorded, medication dosing by weight and recording of vital signs. Key themes which emerged qualitative data regarding the impact of the intervention were the effectiveness of the educational approach, social influences on practice change, increased staff belief in their capabilities and perceived changes in the quality of care delivered.

**Discussion and Conclusions:** A continuing education approach in district hospitals in Laos was successful in integrating the 'technical content' of existing child health programs and demonstrating improved care quality.

**Take-home Messages:** In delivering programmes in small hospitals with limited resources we should aiming to create a learning system for health facilities which can be built on over time as new programs and content are generated - rather than making implementation approaches programme-dependent.

## #10F Short Communications - International Dimensions

10F7 (1997)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room L6, Level 1

### Cultural considerations in teaching history-taking skills: Teaching bilingually is not a simple matter of translation

#### AUTHOR(S):

- Mieko Ogino, International University of Health and Welfare, Japan (Presenter)
- Tamerlan Babayev, International University of Health and Welfare, Japan
- Harumi Gomi, International University of Health and Welfare, Japan
- Motofumi Yoshida, International University of Health and Welfare, Japan
- Takayuki Oshimi, International University of Health and Welfare, Japan
- Haruko Akatsu, International University of Health and Welfare, Japan

#### ABSTRACT

**Background:** The English language has been broadly adopted internationally as a medium for medical education. Nonetheless, many institutions teach history-taking skills in their local native language. International University of Health and Welfare is the first new medical school to be approved in Japan in 38 years; and is committed to teaching bilingually in both Japanese and English. Here we report our experiences in developing a bilingual history-taking course for preclinical students.

**Summary of Work:** In the first and second year courses, we teach cohorts of 140 students medical interview skills in both Japanese and English in parallel; to prepare them for national medical licensing examinations in Japan and international medical practice. As Japanese medical practice has not historically focused on history-taking skills, the resources used to develop the course were primarily American in providence.

**Summary of Results:** We encountered multiple areas where differences in clinical practice meant translation would lead to culturally inappropriate history-taking behaviours. Sexual history and questions regarding illicit drug use are routine in US practice, but in Japanese practice are only asked when clinically warranted, and may otherwise be uncomfortable for typical Japanese patients. Similarly, the expectation to perform a full systems review in day-to-day US clinical practice is not shared in the Japanese setting. Indeed, a systems review is not explicitly required in Japanese national OSCE examinations undertaken prior to entry to clinical training.

**Discussion and Conclusions:** Teaching medical interview skills in two languages is not just a question of translating contents from one language to another; rather faculty needs to consider differences in the underlying social and clinical culture of each language environment. In order for Japan to accept foreigners from many countries increasingly in the future, due consideration is also needed in caring for patients from different cultural backgrounds.

**Take-home Messages:** In international medical education, it is necessary to recognize that which is universal and that which is culturally determined and plan educational programs that are responsive to and considerate of both local and international demands.



## #10G Doctoral Reports 3

### 10G1 (43)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0850

**Location of Presentation:** Room 1.85-86, Level 1

## On Discontinuity and Learning: Investigations of Physicians' Responses to Transitions of Patient Care Responsibility

### AUTHOR(S):

- Judith Bowen, Oregon Health & Science University, Portland, USA (Presenter)
- Bridget C. O'Brien, University of California San Francisco, San Francisco, CA, USA
- David M. Irby, University of California San Francisco, San Francisco, CA, USA
- Olle ten Cate, Center for Research and Development of Education, University Medical Center Utrecht, Utrecht, the Netherlands

### ABSTRACT

**Introduction:** Physicians routinely transition responsibility for patients to other physicians. Such transitions occur when physicians reach the end of a scheduled service block or patients need more or less specialized care. Little is known about the impact of these transitions on learning. When scheduled transitions interrupt the natural clinical reasoning feedback loop that occurs in practice, physicians' opportunities to learn may be lost. The overarching goal of this doctoral research was to investigate physicians' responses to transitions of clinical responsibility. We addressed five research questions: (1) What motivates physicians to pursue follow up for patients previously under their care? (2) How do physicians track patients and what factors influence these tracking activities? (3) How do physicians react when they find confirming or disconfirming clinical feedback? (4) How do physicians receiving responsibility for patients perceive prior physicians' receptivity to clinical feedback and how might these perceptions affect feedback delivery? (5) How often and for what reasons do receiving physicians communicate (or not) with prior physicians about transitioned patients in actual practice?

**Method:** We used a constructivist grounded theory approach to explore the phenomenon of transitions of responsibility. We conducted 22 semi-structured interviews with internal medicine hospitalist and resident physicians. Using a critical incident technique (CIT), we elicited transition experiences under two conditions: (1) unfinished clinical reasoning with follow-up revealing others confirmed or disconfirmed provisional diagnoses, and (2) receiving patients in transition and disconfirming others' diagnoses. Additional questions probed for follow-up strategies, reactions to finding out, resulting changes to practice, and communication. For study one, we used motivation as a sensitizing concept to analyze interview data. For study two, we used activity theory to guide data interpretation from experiences under the first CIT condition. For study three, we used matrix analysis to analyze CIT cases under the first CIT condition, including emotional reactions and perceived practice changes. For study four, we used a sequential mixed methods design; we analyzed qualitative data from CIT cases under condition 2 to determine factors influencing follow-up communication followed by survey methods to determine associations of these factors with perceptions of receptivity to clinical feedback among 41 hospitalists in two established academic groups. For study five, we conducted structured interviews with 38 hospitalists about communication decisions related to 618 transitioned patients in actual practice.

**Results:** Curiosity about patients' outcomes determined whether or not follow-up occurred. Clinical uncertainty, personal attachment to patients, and/or concern for patient vulnerability motivated follow-up[1]. Physicians used electronic and paper lists to track patients. Activity theory highlighted tensions and work adaptations for tracking patients[2]. Physicians' experiences with post-transition clinical feedback were emotionally charged and primed them to adapt. Physicians on the receiving end of transitions were reluctant to provide clinical feedback to prior physicians. Clinical trustworthiness, hierarchy, physical proximity, and time on teaching services associated with perceptions of receptivity to clinical feedback. In practice, communication occurred in 17.3% of cases. Perceptions of prior physicians' uncertainty and requests for follow-up facilitated communication.

**Discussion & Conclusions:** Our research provides initial evidence that physicians are intrinsically motivated to overcome discontinuity, adapting patient tracking processes based on environmental constraints. Sending and receiving clinical feedback intended to close-the-loop about patients' outcomes is a complex, dynamic process influenced by social, material, and case contextual factors. This research provides insights that may help address barriers to learning in discontinuous practice environments.

**References:** [1] Bowen JL, Ilgen JS, Irby DM, ten Cate O, O'Brien BC. "You have to know the end of the story": Motivations to follow up after transitions of clinical responsibility. *Acad Med*, 2017; 92(11S):S48-S54. doi:10.1097/ACM.0000000000001919

[2] Bowen JL, O'Brien BC, Ilgen JS, Irby DM, ten Cate O. Chart stalking, list making, and physicians' efforts to track patients' outcomes after transitioning responsibility. *Med Educ*, 2018; 52:404-413. doi:10.1111/medu.13509



## #10G Doctoral Reports 3

### 10G2 (39)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0850-0910

**Location of Presentation:** Room 1.85-86, Level 1

### Bridges over troubled water: understanding the identity development of medical educators

#### AUTHOR(S):

- Jo Horsburgh, Imperial College, London, UK (Presenter)
- Alan Cribb, King's College London, UK

#### ABSTRACT

**Introduction:** In recent years, the concept of professional identity development has gained traction within medical education in particular in relation to medical student and trainee doctor identity development. However, in contrast to the significant body of literature on teacher professional identity development, there is significantly less literature considering the professional identity of medical educators. This is despite the emphasis on the professionalisation of medical educators and specifically the significant increase in the number of medical doctors completing Master's level qualifications in education. This thesis aimed to explore the professional identity development of these individuals who work across the differing communities of practices (Wenger, 1998) of medicine and education. It explored the diverse nature of both the medical and educational practices that these participants engaged in and how this impacted on their identities as medical educators.

**Methods:** Drawing upon a social constructivist approach, 15 semi structured interviews were conducted with medically qualified educators, all of whom had completed, or nearly completed, a Master's in Education. The interviews were audio recorded and transcribed prior to being thematically analysed.

**Results:** The data suggested that whilst studying for a Master's in Education was ultimately positive for many of the participants, engaging with education as a new field of study was challenging for most. These challenges included engaging with new ways of thinking, carrying out research in a new methodological paradigm, and using new terminology. Furthermore, participants often experienced tensions in brokering between education and medicine communities, and these tensions ranged in type and complexity given the differences between and within these communities. Such tensions included the lower status of education experienced by some, but not all, participants, being unable to share new knowledge and understanding with colleagues, and a lack of identifiable career path within medical education.

**Discussion:** Inspired by Wenger- Trayner et al's (2015) metaphor of landscapes of practice, these findings therefore suggested that crossing between medicine and education involved navigating some 'troubled waters'. However, it appeared from the participants' interviews that there were some 'bridges' that facilitated these crossings and therefore helped participants to develop their identity as an educator. Such bridges included how integrated their education and medicine roles were, completion of their Master's level qualification in Education and how this was viewed by others, the role of the prestige economy within their workplaces, and the amount of identity capital they held.

**Conclusion:** This research showed how developing a professional identity as a medical educator is complex and challenging, but there are factors that act as facilitators to support identity development and boundary crossing.

**References:** Wenger, E. (1998) Communities of Practice. Cambridge: Cambridge University Press.

Wenger-Trayner, E., Fenton-O'Creevy, M., Hutchison, S., Kubiak, C. and Wenger-Trayner, B. (2015) Learning in Landscapes of Practice. London: Routledge

## #10G Doctoral Reports 3

### 10G3 (26)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0910-0930

**Location of Presentation:** Room 1.85-86, Level 1

### Perceptions, discourses and values: Exploring how key stakeholders construct, negotiate and enact widening access to medical school

#### AUTHOR(S):

- Kirsty Alexander, University of Aberdeen, Aberdeen, UK (Presenter)

#### ABSTRACT

**Introduction:** 'Widening access' (WA) policies are implemented internationally to increase the participation of 'non-traditional' groups in Higher Education (HE). In the UK, there is a focus on encouraging those from lower socioeconomic backgrounds to consider medicine.<sup>(1)</sup> Although WA policies are widely applied, little is known about how they are specifically interpreted, negotiated and enacted by key stakeholders - medical schools, school teachers and potential applicants. In the UK, measurable progress in WA to medicine has been low - a fact starkly reflected in unequal application rates.<sup>(2)</sup> This thesis argues that progress may be hindered by stakeholders' conflicting ideologies and interests in relation to WA. It thus aims to explore, analyse and better understand the complex motivations, perceptions and values underlying key stakeholders' behaviour in WA to medicine, and to investigate how these might be realigned to improve practice.

**Methods:** The thesis utilises an overarching framework of interpretivism and qualitative methodologies to explore the pathways of mutual influence and communication between stakeholders. The format is a 'PhD with publications' and includes four distinct studies. Data includes text from UK medical school webpages on WA, interviews with 11 teachers and focus groups with 71 pupils at high schools identified as eligible for WA initiatives (lower than average progression rates to HE and/or serving areas of socioeconomic deprivation). Website data was analysed using critical discourse analysis, with interpretations informed by Foucault's concepts of discourse, positionality and subject positions, and theories of discursive framing. Interview and focus group data was analysed thematically, using template analysis, with conclusions enriched by conceptual frameworks drawing on the work of Sen, Bernstein and Bourdieu.

**Results:** Findings indicate that UK medical school webpages predominantly situate WA within ideas of social mobility for the individual rather than benefit to the workforce. Current discourses thus do not present non-traditional applicants as bringing additional gains to medicine through their diversity, and instead place these applicants in a position of 'deficit'. Medical schools communicate distinct institutional stances by framing WA as a 'requirement', a 'value', or a 'service' on their webpages. High school teachers perceive medical applications as 'risky' for their pupils and this appears to limit their ability to act as advocates for WA to medicine. Their 'hands-off' approach privileges the choices and determination of the individual pupil, but may also allow structural inequalities to be reproduced rather than challenged. Non-traditional high school pupils perceive medicine as increasingly inclusive and were able to negotiate cultural differences through contact with role models in the profession. Pupils did not perceive that sociocultural differences deterred them from the career and some even identified their 'different' backgrounds as a benefit to the workforce and patient care.

**Discussion and conclusion:** This thesis demonstrates the benefit of including diverse stakeholders' voices in WA research and provides practical recommendations for future research, policy and practice. Medical schools should reflect upon and critically evaluate their webpages, to ensure their material aligns with their values and does not disempower or deter potential applicants from non-traditional groups. Medical schools should work with high school teachers to reduce their perception of 'risk' surrounding medicine and thereby build teachers' confidence to promote medicine as a competitive, but nonetheless viable, choice. Finally, knowledge and practice in WA must keep pace with pupils' changing views of the profession to ensure these continue to address current barriers.

#### References:

- Milburn A. Fair Access to Professional Careers. The Independent reviewer on Social Mobility and Child Poverty. London; 2012.
- Steven K, Dowell J, Jackson C, Guthrie B. Fair access to medicine? Retrospective analysis of UK medical schools application data 2009-2012 using three measures of socioeconomic status. BMC Med Educ. 2016;16(1):11-21.

## #10G Doctoral Reports 3

### 10G4 (36)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0950

**Location of Presentation:** Room 1.85-86, Level 1

### Reflection as purposeful, social activity: using cultural-historical activity theory (CHAT) to explore recent veterinary graduates' experiences

#### AUTHOR(S):

- Sheena Warman, University of Bristol, Bristol, UK (Presenter)
- Sue Timmis, University of Bristol, Bristol, UK

#### ABSTRACT

**Introduction:** In recent decades, reflection and reflective practice have become much-debated concepts in healthcare education. Generally, reflection is framed as a conduit for professional learning, with professionals required to demonstrate their ability to reflect through, for example, the use of written portfolios. Such formal activities derive from a concept of reflection as a solitary, individual activity, and a competence which can be assessed, and may bear little resemblance to the day-to-day reflective activities of qualified professionals within the workplace. Using Cultural-Historical Activity Theory (CHAT), this thesis explored the experiences of recently qualified veterinary surgeons as they engaged in reflective activity during the Royal College of Veterinary Surgeons' (RCVS) Professional Development Phase (PDP). The term "reflective activity" was employed to conceptualise reflection as an activity situated in a social, cultural and historical context.

**Methods:** Data collection comprised collation of RCVS documentation and semi-structured interviews with fifteen recent graduates. Analysis was undertaken in three stages, using a combination of inductive and deductive thematic analysis. Firstly, the system of reflective activity during the PDP was described and delineated using Engeström's triangle heuristic (Engeström 1987). Secondly, the Vygotskian concept of *perezhivanie* (Mahn and John-Steiner, 2002) was used to explore the experiences and feelings of individuals within the system. Finally, dialectic analysis (exploring the tensions within the system) was undertaken to identify conflicts experienced by participants, arising from system-level contradictions.

**Results:** Delineation of the system identified that language and interaction with others were key mediators in achieving outcomes of reflective activity, influenced by rules, community and hierarchy. Exploring *perezhivanie* highlighted the impact of affect on engagement in different reflective actions, and the influence of prior experience. Dialectic analysis identified system-level contradictions within two overarching themes. Firstly, the need for support for reflective activity was highlighted, with externally-oriented reflective actions such as talking and writing helping convert worry into purposeful reflection, the perceived attributes of other actors in the system impacting on the value of talk as a mediator of reflective activity, and workplace culture impacting on access to valued resources. Secondly, the formalisation of informal processes led to confusion regarding the purpose of reflective activity, conflict between participants' preferred reflective actions and the format of the online portfolio, and a risk of resentment and reduced engagement arising from rules associated with the PDP.

**Discussion and Conclusions:** Combining the theoretical perspective of CHAT with the related concept of *perezhivanie* has highlighted how experiences and perceptions of individuals engaging in reflective activity influence, and are influenced by, the wider system. The contradictions highlighted within the system may explain some of the confusion and uncertainty around understandings of reflective activity in the veterinary profession. If the potential outcomes of the PDP are to be fully realised, new graduates need opportunities to engage in social reflective activity with trusted colleagues with whom there is a shared understanding of the purpose of reflective activity. The findings of this study suggest that reconsideration of the formal expectations of new veterinary graduates and their employers would be warranted and timely, to help align the gap between reflective activity as proposed by the RCVS, and the reality of graduates' experiences in workplace contexts.

#### References:

Engeström, Y. (1987) *Learning by Expanding: an activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit  
Mahn, H. and John-Steiner, V. (2002) *The Gift of Confidence: a Vygotskian view of emotions*. In: Wells, G. and Claxton, G. (eds.) *Learning for Life in the 21st Century*. Oxford: Blackwell



## #10G Doctoral Reports 3

### 10G5 (i)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0950-1010

**Location of Presentation:** Room 1.85-86, Level 1

### Swinging the Pendulum from Recipes to Relationships: Enhancing impact of feedback through transformation of institutional culture

#### AUTHOR(S):

- Subha Ramani, Harvard Medical School, Boston, USA (Presenter)
- Karen Könings, Maastricht University, Netherlands
- Shiphra Ginsburg, University of Toronto, Canada
- Cees P.M. van der Vleuten, Maastricht University, Netherlands

#### ABSTRACT

**Introduction:** Competency-based medical education requires that learners receive ongoing feedback to identify gaps between observed and expected performance and facilitate professional growth. Feedback is a complex encounter influenced by many sociocultural factors including interpersonal relationships, perceived credibility of the feedback provider and data, and institutional learning culture. To advance understanding of the sociocultural landscape of feedback, our research aimed to explore the following: 1. What institutional factors do residents believe influence the quality and impact of feedback? 2. How does departmental culture influence the quality of feedback conversations as perceived by residents and faculty? 3. Does self-awareness affect feedback seeking and receptivity? 4. What language and behaviors are observed during formal feedback conversations between faculty and residents who have longitudinal relationships in continuity clinics?

**Methods:** We conducted a series of qualitative studies. Questions 1 and 2 involved a grounded theory approach. For question 3, we used framework-analysis based on the Johari window model. For question 4, we used ethnography to explore behaviors during feedback conversations, supplemented by a video-reflexive interview for faculty to view and reflect on their behaviors. Interviews after the conversation allowed residents to further reflect on the effectiveness and impact of the exchange.

**Results:** Study 1: Learners perceived that institutional culture significantly impacted the quality of feedback exchanges. Specifically, the culture of politeness was perceived as a major barrier to honest feedback conversations. Study 2: We identified faculty and resident feedback characteristics that acted as facilitators or barriers to constructive feedback, feedback seeking and acceptance. Intersection of teacher and learner factors led to a four-quadrant model with 3 dominant existing cultures (culture of politeness with emphasis on learner self-efficacy, culture of politeness with focus on learner autonomy, culture of assumed excellence with avoidance of constructive feedback) and 1 aspirational culture that participants strongly recommended (culture of growth). Study 3: Participant narratives suggested that self-awareness could strongly influence the impact of feedback. We described strategies under each quadrant of the Johari window to assist learners, teachers and institutions in enhancing self-assessment, reflection, feedback seeking, self-disclosure and self-discovery. Study 4: Thematic analysis of resident-preceptor feedback conversations could be mapped onto a relationship-centered communication model consisting of three steps: establishment, development and engagement. Participants' strategies were categorized under each of these steps. Synthesizing all findings, we described twelve tips to promote a feedback culture with a growth mindset through multiple perspectives (providers, recipients, relationships and cultural context).

**Discussion and conclusions:** In this research, we have uncovered unique sociocultural factors that influence feedback conversations and impact learner growth. Medical education appears to value a polite culture with a congenial learning climate, yet learners continue to perceive a hierarchical culture which prevents bidirectional feedback. Though focus on learner self-efficacy reinforces good practice, avoidance of constructive feedback will not lead to behavior change or foster growth. We recommend that teachers as well as learners develop a learning goal-orientation, actively seek feedback, accept and incorporate reinforcing as well as constructive feedback, and develop a growth mind-set. We believe that co-creation of learning environments and teacher role-models are essential for mutual growth.

**References:** Watling C. Cognition, culture, and credibility: Deconstructing feedback in medical education. *Perspect Med Educ*. 2014;3:124-128.

Ramani S, Könings K, Mann K, van der Vleuten CPM. About Politeness, Face and Feedback: Exploring perceptions of residents and faculty regarding institutional cultural factors that influence feedback. *Acad Med* 2018;93:1348-1358.

## #10H Short Communications - Patient as Educator 3

### 10H1 (683)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 1.61-62, Level 1

### The 'Patient as Educator': What Motivates SPs?

#### AUTHOR(S):

- Gail Furman, National Board of Medical Examiners, USA (Presenter)
- Elizabeth Denton, Educational Commission for Foreign Medical Graduates, USA
- Kim Edward LeBlanc, National Board of Medical Examiners, USA
- John Repasch, Educational Commission for Foreign Medical Graduates, USA

#### ABSTRACT

**Background:** Standardized patients are used in the high-stakes examination required by the United States Medical Licensing Examination to assess clinical competence for medical licensure. These standardized patients (SPs) undergo extensive training to portray a patient in a standardized fashion and to provide accurate scores for components of the exam. A typical day in the life of an SP includes twelve 15-minute encounters being examined repeatedly by strangers (examinees), each followed by a 10-minute period for scoring. This makes for an intense seven-hour day. Despite this, the six testing centers boast a high retention rate. There is a paucity of literature describing the motivation of the people who are employed as SPs. As health professions expand their SP programs for teaching and assessment, an important question to ask is: What motivates people do this sort of work? The current study addresses this question with the data from a representative sampling of SPs who work for the USMLE Step 2 Clinical Skills exam.

**Summary of Work:** A focus group of 20 SPs was conducted. The participants reflected a sampling of the ages, ethnicity, and years of experience of the SPs from all centers.

**Summary of Results:** The themes identified included income, flexibility, interaction with diverse people, sense of belonging to a community, and helping to contribute to improving health care.

**Discussion and Conclusions:** Income is a small part of the motivation supporting SPs. SP work can be difficult, but the high retention rate may be related to finding meaning in the work, building a community with others in the program, and the flexibility of part-time work. SP Programs can address these issues by ensuring the mission of the program is highlighted, and providing opportunities for building a sense of community.

**Take-home Messages:** Working as an SP can be perceived as a rewarding job, with SPs valuing the SP community and sense of engaging in a mission to protect the health of the public.

## #10H Short Communications - Patient as Educator 3

### 10H2 (2098)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 1.61-62, Level 1

### Patients' attitude towards the involvement of medical students in obstetrics, gynecology and infertility outpatient clinics at Cairo university teaching hospital, a cross-sectional study

#### AUTHOR(S):

- Nadine Sherif, Faculty of Medicine- Cairo University, Egypt (Presenter)

#### ABSTRACT

**Background:** Medical students' contact with real patients is a crucial part of their learning experience which in turn requires cooperative patients willing to share in the teaching process. Patients' acceptance of students' involvement can be issue for a variety of reasons for instance privacy concerns. In obstetrics and gynecology, the intimate nature of the examination and procedures may negatively influence the patients' attitude. Thus, good knowledge of patients' attitude and understanding of the factors associated with that attitude are needed.

**Summary of Work:** A convenient sample of 450 females attending Kasr Al-Ainy obstetrics, gynecology and infertility outpatient clinics were interviewed using a structured questionnaire during a period of 2 month(from September 2016 to November 2016). Data were analyzed using IBM SPSS.

**Summary of Results:** 361 patients (80.2 %) accepted the involvement of medical students. The main reason for acceptance was to contribute to student learning process (69.3%) while the reasons for refusal (n=89, 19.8%) included primarily concerns about privacy during intimate examination (74.2%). Others thought there is no need for the presence of students at all (16.9%) and lastly, the need for privacy during discussing sensitive issues with the treating physician accounted for the minority (7.9%). Patients' attitude was significantly associated with the impact of a previous encounter with medical students ( $P \leq 0.0001$ ). It is noticeable that, more patients are willing to accept a female compared to male students at different clinical situations especially during pelvic examination and discussion of sexual problems ( $P > 0.0001$ ).

**Discussion and Conclusions:** Educators should be aware of gender bias and work to ensure equal learning opportunities for both male and female students by encouraging the patients' acceptance of students regardless of their gender and considering other methods for teaching clinical skills like simulated patients and mannequins whenever possible. Future studies are needed to provide a more comprehensive view about the attitude of the Egyptian women towards students' involvement addressing other possible associated factors.

**Take-home Messages:** The majority of women included in our study are willing to accept the involvement of medical students during their consultation however, a clear preference for female over male students exists. The impact of previous encounter with students is an important factor in determining patients' attitude.

## #10H Short Communications - Patient as Educator 3

### 10H3 (2475)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 1.61-62, Level 1

### Hearing patients' views of teaching and learning

#### AUTHOR(S):

- John Dockerty, Dunedin School of Medicine, University of Otago, New Zealand (Presenter)
- Sarah Harrison, Dunedin School of Medicine, University of Otago, New Zealand
- Lynley Anderson, Bioethics Centre, University of Otago, New Zealand
- Faafetai Sopoaga, University of Otago, New Zealand

#### ABSTRACT

**Background:** Schools of medicine regularly survey learners but don't often ask patients for their views of teaching and learning. We set out to find a routine way to obtain patients views.

**Summary of Work:** A survey questionnaire was designed and piloted, to assess patients views of teaching and learning. Surveys were given to patients in a variety of clinical learning environments. These included inpatients and outpatients in medicine, surgery, women's health, and children's health (age 12+), as well as people seeing their GPs. Twenty one medical students (in two groups) helped to finalise and deploy questionnaires in secondary care (phase I) and primary care (phase II). The students also conducted preliminary analyses for each phase. The questionnaires asked patients for their views of the student(s) and teacher(s); and for their tips for improvement. The questions included categorical choices, Likert scales and free text comments, similar to student surveys of teaching.

**Summary of Results:** Of 305 eligible patients in secondary and primary care settings, 187 (61%) completed questionnaires. Patients were very satisfied with interactions with their students: 84% rated them as 'excellent' or 'very good'. Negative comments were rare. They were also very positive about the teachers. Ratings of students and teachers were highest in primary care, followed by emergency and outpatients, then wards. In free text comments, patients generally gave encouragement, saying students should keep up their good work. Some said students should have a bit more confidence in their abilities. A few wanted students to introduce themselves, or be more empathetic, or more engaged. Patients affirmed teachers and said that they gave students good explanations, listened well and were helpful. Negative comments were rare.

**Discussion and Conclusions:** The patient feedback obtained in this study was positive. There were challenges in surveying diverse clinical learning environments and we learned a lot in doing so. Different approaches suited particular settings. This project was conceived as a pathway to regular feedback from patients; and not simply as a one-off.

**Take-home Messages:** Focusing students on patients views helps prepare them to serve their patients and communities well. We recommend that patient surveys in clinical learning environments should form a routine part of the quality process.

## #10H Short Communications - Patient as Educator 3

### 10H4 (2809)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 1.61-62, Level 1

### Can We Trust A Simulated Patient As An Evaluator?

#### AUTHOR(S):

- Huai Cheng, University of Virginia, USA (Presenter)

#### ABSTRACT

**Background:** Simulated Patients (SP, a pseudo-patient) are used to assess the students' skills in history taking, physical examination, and communication. However, the validity and reliability of such assessments was less reported. The goal of this study was to examine 1) reliability of senior medical students' skills performance in history taking, physical examination and communication assessed by SP; 2) whether SP assessment was associated with students' clinical practice behavior and final grades.

**Summary of Work:** A SP with chief complaint of fall was developed to assess students' skills in history taking, physical examination, clinical courtesy, and patient interaction within a fall prevention curriculum. The SP used checklists and rating scales to assess students' skills performance. Cronbach's alpha was used to measure reliability of skills performance assessed by the SP. Students' general clinical practice behavior included 16 items such as history taking and bedside manner, which were evaluated online by students' preceptors. Whether students asked fall history was used to measure students' specific clinical practice behavior via chart review. Students' final grades of geriatrics clerkship were used as a surrogate marker for better students. Pearson correlations were used to examine associations between students' skills performance assessed by the SP, students' clinical practice behavior, and final grade of geriatrics clerkship.

**Summary of Results:** 427 senior medical students from class 2015-2017 participated in this study. Cronbach's alpha for skills in history taking, physical examination, clinical courtesy, and patient interaction assessed by the SP were 0.593, 0.828, 0.135, and 0.762, respectively. Students' skills performance assessed by the SP was positively associated with final grades of geriatrics clerkship rotation, but not specific or general clinical practice behavior for 158 students of class 2017.

**Discussion and Conclusions:** Reliability of students' skills in physical examination and patient interaction but not history taking and clinical courtesy assessed by the SP was good. Better skills performance assessed by SP was positively associated with students' final grades, but not clinical practice behavior.

**Take-home Messages:** The SP quality was modest. Better skills performance assessed by the SP didn't predict better clinical practice behavior.



## #10H Short Communications - Patient as Educator 3

10H5 (242)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 1.61-62, Level 1

### “I Felt Like a Privileged Vital Educational Instrument”: The Perspective of Simulated Patients as Educators

#### AUTHOR(S):

- **Meghana Sudhir, Mohammed Bin Rashid University of Medicine And Health Sciences, United Arab Emirates (Presenter)**
- Safeeja Abdul Rahuman, Mohammed Bin Rashid University of Medicine And Health Sciences, United Arab Emirates

#### ABSTRACT

**Background:** Simulated patients are valuable teaching resource and are intensively contributed to medical education for years. In our University SPs contribute towards Multiple Mini Interviews [MMI], OSCEs and Teaching sessions through various role portrayals. An integral part of an SP is to provide effective feedback.

**Summary of Work:** We have SP WhatsApp platform where a lot of productive discussions happen. On that, they were asked to share their perspective as educators. 24 SPs participated in the discussion.

**Summary of Results:** Here are some of the views of the SPs: - “It has always been a practical and engaging activity where one serves as a learning instrument to give out what has been memorized earlier, though it is done with absolute carefulness and commitment which proves to be of immense help to the medical students.” – “I feel I am more actively engaged as educator contributing to the educational progression of medical students. This brings all my senses of mental reasoning to be fully engaged to ensure maximum fairness and accurate assessment.” – “Sometimes during the scenario I felt like an educator, assessor or teacher; but on some other occasions, I felt like a privileged vital educational instrument in medical learning process.” – “We are the first door of hesitation for the students in their practical life ... after opening us, they can easily go to other rooms.” – “I do feel as a trainer during some of the scenarios, example, when giving feedback and at other scenarios I feel like a support to the students learning process.” More views will be shared during presentation.

**Discussion and Conclusions:** Traditionally, patients have mainly served as objects in bedside teaching. However, in their more active role within medical education, they fulfil vital role as teachers. From ‘programmed patients’ to ‘simulated participants’, SPs are not just contributing to practical skill development but also to the development of student attitudes toward patients in a personal and professional capacity.

**Take-home Messages:** The role of patients as teachers of the biopsychosocial model of disease and lived experience of disease is unique to the patient. Help the students gain these experiences by incorporating patients in the learning process and through realistic case scenarios with simulated patients.

## #10H Short Communications - Patient as Educator 3

### 10H6 (1389)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 1.61-62, Level 1

### Simulated Patients' Perceptions of their Role and Contribution to Health Professions Education

#### AUTHOR(S):

- Clare Sullivan, RCSI, Ireland (Presenter)
- Laura O'Connor, RCSI, Ireland
- Simon Horne, RCSI, Ireland
- Erica Smyth, RCSI, Ireland
- Teresa Pawlikowska, RCSI, Ireland
- James Murray, RCSI, Ireland

#### ABSTRACT

**Background:** Studies have shown the effectiveness of simulated patient encounters for developing consultations skills while other research has shown that the expectations of faculty and patients differ when it comes to evaluating consultation skills. RCSI's 3,300 square meter expansion of simulation facilities in 2017, fueled an increase in demand for simulated patients. Few studies address the perspectives of simulated patients in regard to their role, therefore, this study aimed to explore the perspectives of simulated patients.

**Summary of Work:** A qualitative approach was taken. Simulated patients, actors and surface models involved in teaching in RCSI were invited to participate in one of four focus groups. Fifteen simulated patients participated and eight actors. Focus group discussions were audio recorded and transcribed verbatim. Inductive thematic analysis was carried out on transcriptions.

**Summary of Results:** A number of themes emerged from the data. Participants believed that they brought valuable life experience to the role both in terms of their past work and life experience and from their personal experiences as patients. Feedback emerged as a theme in terms of being a way to contribute but also a challenge to deliver well. There was a clear divide in the perspective of participants when discussing physical examination. Some participants felt that providing their bodies for examination was essential for student learning whereas other participants did not wish to get involved with physical examination. Simulated patients gained a better understanding of the healthcare system as a result of their role.

**Discussion and Conclusions:** Simulated Patients believe they have an important role to play in healthcare education, are eager to further develop their role, especially in giving feedback and learn about the healthcare system from being involved, which impacts on their own interactions.

**Take-home Messages:** Simulated patients are an engaged group of people who believe they have a valuable contribution to make by providing the students with an opportunity to practice and by giving feedback from the unique perspective of the patient. Ongoing training is required to support simulated patients to provide effective feedback to students. Simulated patients learn about healthcare from being involved.

## #101 Short Communications - Assessment: Licensing Exams / Standard Setting

1011 (915)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room L2, Level 1

### Assessing the Impact of Increasing Exam Burden on Final Year Medical Students - an observational study

#### AUTHOR(S):

- Heather Keenan, East and North Herts Trust, UK (Presenter)
- Jack Haywood, East and North Herts Trust, UK

#### ABSTRACT

**Background:** Final-year medical students in the UK face a growing burden of examination. In addition to written and clinical exams, they must also take the situational judgement test (SJT) and prescribing skills assessment (PSA). In 2022, the Medical Licensing Assessment (MLA) will begin. Students are therefore never far away from the next exam during this crucial year. The aims of this study were: 1. To evaluate whether proximity to their next exam impacts student perception of teaching quality, and; 2. To assess how proximity to exams impacts student self-reported learning priorities.

**Summary of Work:** We designed four teaching sessions to deliver to approximately 50 final-year students, delivered six times by the same facilitator. Students completed a questionnaire after each session, rating their current priority (preparing for exams versus preparing to become a doctor), the relevance of the teaching session to this priority, and the overall quality of the teaching on a five-point Likert-type scale. These ratings were correlated against number of days until the next examination, of which the SJT, PSA and first day of finals were considered.

**Summary of Results:** Students were on average 37.4 days away from their next exam when teaching sessions were delivered (min 3 days, max 92 days, SD 26.8). Data collection is ongoing. Early results indicate: 1. The closer students are to an exam, the more they prioritise passing exams above learning to become a doctor. 2. Students rate teaching sessions that they consider relevant to their current needs more highly. 3. Student rating of teaching session quality decreases closer to exams.

**Discussion and Conclusions:** As we move towards introducing more assessments for medical students, in addition to an already significant burden of other exams, it is important to consider the impact this has on the ultimate goal of producing effective doctors. Our results indicate that if there is always a major exam looming on the horizon, we run the risk of entirely removing their focus from learning how to be an effective doctor.

**Take-home Messages:** We should be wary of adding yet more examinations to the already crowded schedule of final-year medical students.

## #101 Short Communications - Assessment: Licensing Exams / Standard Setting

**1012** (3304)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room L2, Level 1

### Licensing examinations - a retrospective: (Un)intended emphases in Germany's national licensing examinations?

#### AUTHOR(S):

- **Nikolas Psathakis, German Medical Students' Association (bvmd e.V.), Germany (Presenter)**
- Aurica Ritter, German Medical Students Association (bvmd e.V.), Germany
- Lucas Thieme, German Medical Students Association (bvmd e.V.), Germany
- Birgitta Kütting, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
- Jana Jünger, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany

#### ABSTRACT

**Background:** By 2021, the German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy (IMPP) will have devised a new content outline for Germany's national licensing examinations (NLE) with the intention of shifting to a more competency- as well as role-focused assessment based on Germany's non-binding national curriculum ('NKLM', 2015) and the CanMEDS framework. A joint research group consisting of IMPP researchers, medical students from various German medical schools coordinated by the German medical students' association (bvmd) conducted a 'post-examination' review of prior medical licensing examinations as an initial benchmark on the representation of the different professional roles and specialties in medicine under the currently effective content outline from 2013. ('GK2', 4th revision)

**Summary of Work:** Throughout 2018, the IMPP and bvmd reviewed 16 NLEs. (Spring 2015 - Fall 2018) The examinations analysed consist of 8 similar to the USMLE Step 1 as well as 8 similar to the USMLE Step 2CK resulting in 5160 items analysed. For data reliability, standardised procedures in conjunction with a specialised online platform have been used.

**Summary of Results:** Our preliminary results of the item review indicate an imbalance in terms of which professional roles and competencies in terms of past exams are focused on. The final data will include the spread of disciplines, roles and competencies plus secondary indicators e.g. in- or outpatient setting etc. - separately for both Step 1/2CK equivalents.

**Discussion and Conclusions:** As Germany's current content outline for its NLEs is focusing mainly on traditionally-organised knowledge, its balancing of professional roles and competencies struggles to fully comply with coming standards and expectations. A standardised and systematic review as conducted can yield a more comprehensive picture of medical examinations' strengths and weaknesses.

**Take-home Messages:** Our results show that reviewing passed examinations by students is a helpful tool for the conceptual design process of future national licensing examinations. Joint working groups including both fully-licensed physicians and students might prove beneficial in including all relevant perspectives.

## #101 Short Communications - Assessment: Licensing Exams / Standard Setting

1013 (2389)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room L2, Level 1

### Development of national licensing exam

#### AUTHOR(S):

- **Zalim Balkizov, ASMOK, Russia (Presenter)**
- Tatiana Semenova, Ministry of Health of Russia, Russia
- Zhanna Sizova, Federal Center for Accreditation of the Ministry of Health of Russia, Russia

#### ABSTRACT

**Background:** Medical education system in Russia requires 6 years of formal undergraduate training in medical school and 2 years of training in residency programmes. Access to the medical profession based on diploma and formal certification after residency programs. Following problems was identified: Certification by providers of education leads to conflict of interests and low quality of assessment. Health practitioners complains on low level of skills in graduates. Procedure of certification is very formal and compromised.

**Summary of Work:** New regulation (based on the Federal law) implements 3 types of accreditation - primary after graduation from the medical school, primary specialized after residency programs, and reaccreditation every 5 years of practice. Both primary and primary specialized accreditation includes 3 steps - MCQ, OSCE and oral examination. New institution was founded to run the system for whole Russia - Federal Center for Accreditation. Center develops all assessment materials including MCQs, OSCE stations and tasks for oral exams.

**Summary of Results:** Primary accreditation was implemented in 2017 for medical school graduates and independent assessment of clinical skills became strong motivation for both - students and faculty members to improve training in clinical skills centers.

**Discussion and Conclusions:** Implementation of OSCE is very limited - only 5 stations was adopted nationwide for the accreditation step 2. However, independent assessment of clinical skills became strong motivation for both - students and faculty members to improve training in clinical skills centers. Oral exams demonstrates low validity and going to be replaced by long cases. Selection and development of independent examiners turned out to be biggest challenge in organization of exams.

**Take-home Messages:** Implementation of new methods of assessment requires support from the regulators and from the professional society.



## #101 Short Communications - Assessment: Licensing Exams / Standard Setting

**1014** (1281)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room L2, Level 1

### The impact on Angoff standard setting of changing to open-resource assessment

#### AUTHOR(S):

- **Mike Tweed, Otago Medical School, New Zealand (Presenter)**
- Jen Desrosiers, Otago Medical School, New Zealand
- Tim Wilkinson, Otago Medical School, New Zealand

#### ABSTRACT

**Background:** Assessment of healthcare students should reflect eventual practice. Healthcare professional practice encourages use of a wide range of resources, looking up information when needed, which is preferable to guessing. However, implementing resource availability in student examinations ('open-book') might alter the expected performance. We explored the potential impact on standard setting of an open-resource examination.

**Summary of Work:** Two pools (A and B) of 40 MCQs were created. Students sat two exams, each of 60 minutes, made up of each pool in randomised order, with access to resource also randomised. The closed instructions were standard. The open instructions allowed any resource to be used, but no communication. Prior to the students sitting the exams, a panel of five standard setters was convened. Following discussion of the format of the examination, student ability and the instructions to the students, the panelists undertook a process of judging proportion correct for minimally competent students. For 10 practice questions, this was done considering closed instructions and open instructions, with discussion of judgments after each question. Following this, the panelists made independent judgments for the 80 questions without discussion.

**Summary of Results:** The overall pass standard was different for pool A (59.4% for open resource instructions v 47.9% for closed,  $p < 0.001$ ) and pool B (58.8% for open v 46.5% for closed,  $p < 0.001$ ). There was no difference in variance of the pass-mark between open and closed instructions for both pool A and B. Of the 80 individual questions, 78 were deemed to have a higher pass-mark under open conditions, 2 a higher pass-mark under closed conditions, but no differences were statistically significant. There was no difference in variance of the pass-mark between open and closed instructions for any question.

**Discussion and Conclusions:** The panelists judged that exams would be easier under open resource conditions, and adjusted their decisions accordingly. In reality, there was no difference between in correct scores by instruction type. This study was underpowered for question level analysis. Areas for exploration include how resource utility affects judgments and performance.

**Take-home Messages:** Standard setters expected, potentially erroneously, better student performance due to availability of resources.

## #101 Short Communications - Assessment: Licensing Exams / Standard Setting

1015 (486)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room L2, Level 1

### Setting defensible standards in small cohorts: understanding when borderline regression works

#### AUTHOR(S):

- **Matt Homer, Leeds Institute of Medical Education, UK (Presenter)**
- Richard Fuller, LIME, UK
- Godfrey Pell, LIME, UK
- Jennifer Hallam, LIME, UK

#### ABSTRACT

**Background:** Standard setting, particularly in OSCEs, is always challenging, especially in examinations with small cohorts (e.g.  $n < 50$ ). Examinee-centred approaches (e.g. borderline regression - BRM) are generally thought to be problematic in such context, and institutions often prefer to rely on test-centred approaches such as Angoff, which can be time-consuming and are not particularly reliable in themselves.

**Summary of Work:** In three quite different small-cohort OSCE contexts, we investigate station- and test-level BRM metrics, and the visual relationship between global grades vs. total scores, to better understand where BRM can 'work': 1. PLAB2 - The examination of international medical graduates wanting to practice in the UK ( $n=30-35$  per administration, 18 stations per exam, 198 administrations, station level data). 2. Senior sequential examination of undergraduate students in a large medical school - only a small proportion of candidates have to sit the second sequence ( $n=20$  to  $50$ , 10-12 stations with 25-26 stations in full sequence, four administrations, candidate level data). 3. Physician associates ( $n=25$ , 16 stations, two administrations, candidate level data) - successful candidates will practice as part of a team alongside fully qualified doctors.

**Summary of Results:** We find that BRM works well in the vast majority of stations (the percentage of problematic stations are 5%, 18% and 9% respectively across the three contexts). Where problems occur, this is generally due to an insufficiently strong relationship between global grades and checklist scores to be confident in the standard set by BRM for these stations (i.e. low R squared), often as the result of insufficient spread in scores in these stations.

**Discussion and Conclusions:** From a practical point of view, extant cut-scores, preferably based on previous satisfactory station performance in a large cohort, should be available for all stations in small cohort exams so that when problems with BRM are diagnosed (e.g. a lack of spread of scores) these cut-scores can substitute.

**Take-home Messages:** We have shown that where there is sufficient spread of ability in a small cohort, BRM will generally also provide defensible standards but, as ever, care needs to be taken in the overall design of station level scoring instruments.

## #101 Short Communications - Assessment: Licensing Exams / Standard Setting

1016 (2408)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room L2, Level 1

### Standard Setting Using a Modified Post-Examination Borderline Group Method for Simulation-Based Performance Assessment

#### AUTHOR(S):

- Na Jin Kim, The Catholic University of Korea, College of Medicine, Seoul, South Korea (Presenter)
- Young-Min Kim, The Catholic University of Korea, College of Medicine, Seoul, South Korea
- Sung A Lee, The Catholic University of Korea, College of Medicine, Seoul, South Korea
- Su Young Kim, The Catholic University of Korea, College of Medicine, Seoul, South Korea

#### ABSTRACT

**Background:** We have evaluated various standard setting methods to find an optimal standard setting method for simulation-based performance assessment (SBPA) and remediation in our medical college. In 2018, we have implemented a modified post-examination borderline group method (PBGM) for the SBPA to compensate the rater qualification problem in examinee-centered standard setting during the examination.

**Summary of Work:** We implemented a SBPA comprised of 6 clinical performance examination and 6 OSCE stations for procedural skills at the end of 3rd year clinical clerkship. The SBPA was conducted for 2 days with 2 different sets of 12 stations. During the examination, content experts and experienced standardized patients assessed the students' performance using checklists and a global rating scale (outstanding-clear pass-borderline-clear fail). After examination, 13 experienced standard panelists have decided the cut scores through a modified PBGM with 3-round setting procedure. We compared the cut scores and failure rates calculated from the 4 methods - PBGM, BGM and borderline regression method (BRM) during examination, and a relative method [mean minus one standard deviation (SD)].

**Summary of Results:** During 3 rounds of the setting procedure, SD of the setters' scores were decreased. Overall cut score (sum of the cut scores) calculated from the PBGM were similar to the BRM but higher than those of the BGM and relative method. Failure rates by two decision rules including overall cut score and minimum passing station numbers were different among the methods (15.1% in BRM, 12.8% in PBGM, 10.5% in BGM and 5.8% in the relative method). In the post-setting survey, the panelists were responded that the modified PBGM is easier than modified Angoff method which was implemented in 2017 and is more appropriate for standard setting for the SBPA in our college. In an on-line survey, 89% of students responded the SBPA and remediation were helpful for their competency improvement.

**Discussion and Conclusions:** A modified PBGM was feasible and practical for standard setting in a SBPA and remediation in our medical college.

**Take-home Messages:** A modified PBGM can provide reasonable and defensible approach to standard setting for relatively low-stakes, criterion-referenced SBPA in a medical school or college.

## #10J Short Communications - Empathy

### 10J1 (1629)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 0.31-32, Level 0

### Instilling empathy - is the devil still in third year?

#### AUTHOR(S):

- Anna Byszewski, Regional Geriatric Program of Eastern Ontario, Canada (Presenter)
- Philippe Rousseau, University of Ottawa, Canada
- Melissa Forgie, University of Ottawa, Canada
- Heather Lochnan, University of Ottawa, Canada

#### ABSTRACT

**Background:** An empathetic, humanistic approach has been linked to patient sense of satisfaction, patient safety and compliance with treatment and physician wellness. Although recent cross sectional studies have challenged the notion of decline of empathy in medical school training, longitudinal studies suggest mixed results or that empathy may erode. This project was designed to enable longitudinal assessment of medical students' empathy at the University of Ottawa starting with first year of enrollment and thus help to identify at what point in the curriculum there is a need to develop measures to support these qualities.

**Summary of Work:** The Interpersonal Reactivity Index (IRI) was used to measure emotional and cognitive empathy. It was preferred over other measures due to high psychometric properties, use within medical fields around the world, and validation in multiple languages. Students were contacted by email and participation was voluntary. The four IRI subtests utilized in this project included perspective taking, fantasy taking, empathic concern and personal distress.

**Summary of Results:** Results of student responses gathered longitudinally from year 1 to 3 demonstrated statistically significant increase in IRI subtests of perspective taking, fantasy taking and empathic concern. For personal distress there was similar tendency to experience feelings of personal anxiety and unease in tense interpersonal settings as students progress through their curriculum.

**Discussion and Conclusions:** The Preliminary IRI responses suggest that most of the empathy competencies may improve with training as students gain clinical exposure when provided with supports and learning experiences such as a humanities program, a diverse professionalism curriculum, reflective longitudinal mandatory eportfolio and solid faculty development (as introduced at University of Ottawa). More frequent wellness checks and student support to address pressures of the learning environment may be required in clinical years.

**Take-home Messages:** These findings at our institution are in contrast to previous longitudinal studies measuring empathy in medical students where empathy appeared to decline in the clinical years. It could also be reflective of the shift in medical education designed to foster overall a more positive learning environment. The results indicate also that IRI is a tool that can be applied across a medical school curriculum and assist in tracking impact of educational measures.

## #10J Short Communications - Empathy

### 10J2 (1529)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 0.31-32, Level 0

### Students' stress coping strategies impact empathy trajectories during medical training: a 5-year longitudinal study

#### AUTHOR(S):

- Margaret Gerbase, University of Geneva, Faculty of Medicine, Switzerland (Presenter)
- Giovanni Piumatti, University of Geneva, Faculty of Medicine, Switzerland
- Milena Abbiati, University of Geneva, Faculty of Medicine, Switzerland
- Anne Baroffio, University of Geneva, Faculty of Medicine, Switzerland

#### ABSTRACT

**Background:** Research suggests that different longitudinal empathy trajectories may exist within a given student population. Empathy might be influenced by several factors during preclinical-to-clinical transition, including anxiety and stress. However, changes in longitudinal inter-individual variability in empathy due to these factors remain insufficiently explored.

**Summary of Work:** We tested the associations of anxiety and stress coping with pre-analysed students' empathy trajectories over time during medical studies. Group-based trajectory modeling traced different empathy trajectories among 201 medical students at the Geneva medical school (Mage=20.74, 57% females) from preclinical (Years 1) to clinical years (Years 4, 5). Differences between empathy trajectories were assessed on self-reported anxiety and stress coping strategies at years 1, 2 and at the beginning of clinical training at Year 4. Measures included the student version of the Jefferson Scale of Empathy (Years 1, 4, 5), the Coping Inventory for Stressful Situations (Years 1, 4) and the State-Trait Anxiety Inventory (Years 2 and 4).

**Summary of Results:** Results evidenced two empathy trajectory groups: low decreasing (n=59; 29%) and high stable (n=142; 71%). The decline of empathy among low decreasing students was evident during clinical years. At Year 4, univariate analysis of covariance (controlling for gender) indicated that low decreasing students were more likely to report low levels of task-oriented coping (i.e., dealing directly with stressful situations) than their high stable peers ( $p<0.05$ ). No differences in anxiety levels were observed between the two groups. At Year 5, lower empathy levels were predicted by lower levels of task-oriented coping at Year 4 ( $p<0.05$ ) according to a regression model controlling for gender, avoidance- and emotional-oriented coping strategies.

**Discussion and Conclusions:** Medical students individually differ in empathy development: for some empathy can remain stable while for others it can decrease especially during clinical training. Furthermore, students who showed lower empathy levels also displayed lower stress coping strategies.

**Take-home Messages:** Clinical years substantially impacted empathy levels in nearly one-third of medical students. Lower stress coping strategies when beginning clinical training predict lower empathy levels in the following training year.



## #10J Short Communications - Empathy

10J3 (3155)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 0.31-32, Level 0

### Embodied empathy, a phenomenological study of physician touch

#### AUTHOR(S):

- **Martina Kelly, University of Calgary, Canada (Presenter)**
- Clark Svrcek, University of Calgary, Canada
- Tim Dornan, Queen's University, Belfast, Northern Ireland

#### ABSTRACT

**Background:** Empathic physician behavior is associated with improved patient outcomes. One way to demonstrate empathy is effective use of nonverbal communication skills (NVC). NVC include facial expression, body language, gestures, and touch. While touching someone's arm, in a moment of distress can express empathy, touch is also liable to misinterpretation. Touch is a sensitive practice in medicine, and the literature shows learners would value more guidance. To develop a better understanding of touch as a form of empathic behavior, we explored physicians' experiences communicating with touch.

**Summary of Work:** We used interpretative phenomenology, the study of human experience, to guide study design. We conducted in-depth interviews (40-100 mins) with fifteen physicians (7 men) of varying experience (less than five year, six-fifteen year and more than sixteen years, from a range of specialties. Participants described specific examples of touch from clinical practice. We identified themes using template analysis, followed by a process of dialectic questioning, moving back and forth between the data, to synthesize a final interpretation.

**Summary of Results:** Physicians used touch to acknowledge emotions, demonstrate empathy and presence. We situated our findings in the writings of Merleau-Ponty, using Finlay's model of embodied empathy to illustrate three levels of empathic engagement through touch; physicians embodied responses in a given context informed possible use of touch. Physicians 'act[ed]-into' the situation, by imagining how a patient might feel. Finally, some physicians, recalled instances where they were unable to differentiate between physical and emotional 'touch', illustrating a 'merg[ing]-with' patient experience. Empathic touch involved attending to shared context, as an intersubjective experience, rather than focusing on the individuality of either experienter.

**Discussion and Conclusions:** Touch is relatively unexplored in medicine but our results indicate it plays a valuable role in nonverbal communication, particularly expression of empathy. Given its complexity, we suggest initial strategies for teaching could include raising the topic with learners as part of communication skills curricula or video analysis of recorded consultations.

**Take-home Messages:** Touch shows empathy in clinical practice. Phenomenological accounts of empathy, which emphasize its embodied intersubjective nature, could inform pedagogical approaches to touch in medical education and deepen our understanding of empathy.

## #10J Short Communications - Empathy

10J4 (2864)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 0.31-32, Level 0

### Empathy microskills training program for undergraduate medical students in Chile

#### AUTHOR(S):

- **Juan Arellano, Universidad de Concepción, Chile (Presenter)**
- Debora Alvarado, Universidad de Concepción, Chile
- Mary Jane Schilling, Universidad de Concepción, Chile
- Carolina Bustamante, Universidad de Concepción, Chile
- Maritza Espinoza, Universidad de Concepción, Chile
- Nancy Bastias, Universidad de Concepción, Chile

#### ABSTRACT

**Background:** In the last 20 years research have supported the importance of empathy and communication skills for doctors and patient interactions, mainly having a positive effect in adherence and outcome. However, there is not a proven way to teach students these abilities. We took the microskills proposal from Beck & Kulzer (2018) and developed an empathy microskills training program for undergraduate medical students. The aim of this study is to evaluate this program.

**Summary of Work:** An experimental design with two groups (A and B) was realized. Students were randomly allocated in each group. The program was divided in two part: a theory and discussion module and a workshop module. Both groups received both modules but in different times. Group A received the workshop first and then the theory module. Group B, otherwise. There were four measures, one at the beginning, one after the first month (end of theory module “ middle term of workshop module), one after the second month (end of workshop module) and one at the end. Video recording of simulated patient interview was done for each student in each measure time. Five judges evaluated the student microskills through the microskills rubric for the five microskills: silence, active listening, non verbal communication, conveying empathy, and resonance.

**Summary of Results:** 28 students participated in this study. In the first measurement, there were no statistical differences between the groups in any of the skills. In the second measurement, an improvement of 0.7 (ir=1.0) was observed for both groups, with no statistical differences between them. In the third measurement, there was a decline of 0.6 (ir=1.3), but also with no statistical differences between the groups. In the last measure, there were statistical differences between the groups for every microskills, in exception of silence.

**Discussion and Conclusions:** It is crystal clear that we can teach empathy, and that it can be done with theory and discussion groups or through workshop where students can apply and practice these abilities. A combination of both is preferred. Simulated patients are also needed for teaching empathy.

**Take-home Messages:** Empathy can be taught to medical students from a microskills perspective.

## #10J Short Communications - Empathy

10J5 (748)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 0.31-32, Level 0

### Fostering social empathy in medical students

#### AUTHOR(S):

- Caroline Wellbery, Georgetown University Medical Center, USA (Presenter)

#### ABSTRACT

**Background:** The Social Empathy Index (SEI) is a validated instrument that measures self-reported empathy for both individuals and vulnerable groups. The social empathy component is comprised of two categories: Contextual Understanding of Societal Barriers and Macro Self-Other Perspective-taking.

**Summary of Work:** We published a study of all first-year medical students' SEI scores before and after completing a required course on the social determinants of health. In a follow-up publication, we re-administered the SEI to the original student cohort entering their 4th year to determine longitudinal changes in individual and especially social empathy.

**Summary of Results:** Of 130 4th-year eligible medical students, 76 (58%) completed all three surveys. Significant changes occurred in 2 categories of individual empathy and in one category of social empathy. The mean 'Affective Mentalizing' score increased by 0.15 points from the first to fourth year of medical school,  $P < 0.05$ . A concomitant decline was observed in 'Emotional Regulation' decreasing 0.68 points,  $P < 0.001$ . 'Contextual Understanding of Systemic Barriers' (CU) increased in mean score by 0.26 points,  $P = 0.006$ . Fourth-year students who indicated their plan to enter primary care specialties had higher scores at base-line and at follow-up.

**Discussion and Conclusions:** Our findings support promoting interventions to combat a decline of emotional regulation in their clinical years. The consistent increase in CU at each follow-up testing point may indicate a need to place greater emphasis on students' sense of self-efficacy in addressing the social determinants of health, as CU represents a focus on barriers rather than a doorway to efficacious action. One measurable gauge of success in instilling a sense of agency would be improvement in the second social empathy category, Macro Self-Other Perspective-taking (MSP), which in our studies did not change over time. Social empathy scores also might predict on entry into medical school which students are likely to choose primary care specialties.

**Take-home Messages:** The SEI can be used to gauge students' empathy for social groups. 2. Helping students regulate their emotions may stop empathy decline and reduce burnout. 3. When teaching social determinants of health, educators should engage students in practical, actionable solutions. 4. Higher Social Empathy Index scores on matriculation may predict students' entry into primary care specialties.

## #10J Short Communications - Empathy

10J6 (366)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 0.31-32, Level 0

### Measuring the level of clinical empathy in Moscow medical students and residents by the Jefferson Scale of Empathy - the first pilot study in Russia

#### AUTHOR(S):

- **Sergey Gatsura, A.I. Yevdokimov Moscow State University of Medicine and Dentistry, Russian Federation (Presenter)**
- Oxana Gatsura, A.I. Yevdokimov Moscow State University of Medicine and Dentistry, Russian Federation
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- Pablo Gonzalez Blasco, SOBRAMFA “ Medical Education & Humanism, Brazil
- Graziela Moreto, SOBRAMFA “ Medical Education & Humanism, Brazil
- Mikhail Navarkin, A.I. Yevdokimov Moscow State University of Medicine and Dentistry, Russian Federation

#### ABSTRACT

**Background:** Empathy is considered to be a core competence of practicing physician who is expected to master it before launching unsupervised medical practice. On the other hand most Russian medical educators use research tools designed to estimate empathy in general population. The aim of this study was to evaluate the level of empathy in Moscow medical students and residents using Russian translation of Jefferson Scale of Empathy version for medical students (JSE-S).

**Summary of Work:** This cross-sectional study was conducted in September-December 2018 at the A.I. Yevdokimov Moscow State University of Medicine and Dentistry. The paper version of JSE-S translated into Russian was filled out anonymously by 161(30.4% males) final year medical students and 138 (30.6% males) first year medical residents. The mean empathy scores were analyzed with regard to gender, age and future specialty. The data were processed by Statistica 13.2 software.

**Summary of Results:** The JSE-S Russian version was well perceived by our respondents and displayed acceptable internal consistency in both students and residents (Cronbachs' alpha = 0.81 and 0.79 resp.). Total empathy scores did not differ significantly between students and residents (96.1 vs 98.1). Gender differences between student male and female respondents were not significant (94,8 vs 97.6), but female residents were obviously more empathetic than their male colleagues (100.1 vs 93.3,  $p=0.0188$ ). No association was found between age, specialty interests and the level of empathy in both students and residents groups.

**Discussion and Conclusions:** Mean empathy scores of our respondents were comparable to those obtained in most Asian countries but noticeably lower than the data reported by researchers from Western countries. Interestingly, these findings match geographical position of Russia and might reflect local cultural traditions as well as certain tension within the medical profession caused by ongoing reforms of healthcare system in this country.

**Take-home Messages:** Encouraging results of our preliminary study substantiate further appraisal and validation of the JSE-S Russian version in national system of medical education. More targeted teaching on communicative skills could raise the level of empathy in medical trainees before they start their independent medical practice.

## #10K Short Communications - Communication Skills

### 10K1 (1267)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 0.14, Level 0

### 'The Silence Pact' - a qualitative exploration of cultural differences in breaking bad news

#### AUTHOR(S):

- Sophie Holmes, Newcastle University, UK (Presenter)
- Jan Illing, Newcastle University, UK

#### ABSTRACT

**Background:** Breaking bad news is recognised as an area where cultural practice varies significantly. In India, up to half of patients receiving chemotherapy are unaware of their diagnosis. Increasingly, our European medical workforce relies on international medical graduates (IMGs), who find communication skills a particularly difficult area during transition.

**Summary of Work:** This study explores cultural differences in breaking bad news with a view to supporting international transition. The research questions were: 'What is different in breaking bad news between the setting where IMGs trained and the UK?' And 'What could be underlying these differences?' A single investigator (SH) conducted 40 minute telephone interviews with IMGs who felt that breaking bad news had been different in their place of training.

**Summary of Results:** 35 IMGs were invited to participate and 16 were recruited. One key difference identified was whether to inform patients of a serious diagnosis, termed in Spain 'the silence pact'. This decision is motivated by a wish to protect the patient from emotional distress and improve their potential for recovery. In Northern Europe, on the other hand, we prioritise autonomy: confidentiality and informed consent are bastions of ethical practice.

**Discussion and Conclusions:** Underlying 'the silence pact' were differences in three key relationships. 1) The doctor-patient relationship - In their country of training, IMGs reported that many patients do not want to know their prognosis and feel suspicious of two-way decision making. In return, doctors demand respect and can be hostile when questioned. 2) The patient-family relationship - Family members are often interdependent and decisions are made collectively. Relatives feel that they are best placed to decide whether the patient will cope with knowledge of their diagnosis. 3) The doctor-family relationship - Family members are perennially present in doctor-patient interactions, providing valuable information for the doctor, contributing significantly to patients' care and taking part in decision-making.

**Take-home Messages:** Cultural variation in breaking bad news pivots on key healthcare relationships. Further exploration of this area will usefully inform effective IMG transition. In addition, this work has the potential to illuminate biases in our own ethical framework. How far do we prioritise autonomy and confidentiality over compassion?



## #10K Short Communications - Communication Skills

### 10K2 (1491)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 0.14, Level 0

### Learning communication skills and how to deliver bad news in a multicenter fellowship for medical students. Results from a five year experience program

#### AUTHOR(S):

- Laura Boguea Muller, SOBRAMFA, Brazil (Presenter)
- Pablo G. Blasco, SOBRAMFA, Brazil
- Maria Auxiliadora Craice De Benedetto, SOBRAMFA, Brazil
- Graziela Moreto, SOBRAMFA, Brazil
- Pedro Subtil de Paula, SOBRAMFA, Brazil

#### ABSTRACT

**Background:** Communication skills and how to deliver bad news are complex themes and involves issues related to empathy and the ability to deal well with ones own and others emotions. Protocols have been proposed for facilitating the communication of bad news. However, many doubts persist regarding them. Would it be enough? Moreover, if the protocol is not enough, where can we find the resources to assist us in this communication at a delicate time?

**Summary of Work:** Qualitative approach of reports and interviews with medical students that have participated in a multicenter fellowship with a Tag Along model.

**Summary of Results:** Through the students' perspective, it is possible to identify the insecurity in face of uncertainty in delivering bad news: 'very difficult to be completely prepared and sure how to do it'. The protocol appears as a safe harbor: 'the doctor feels more insecure because he does not have a step by step'. However, the individuality of situations appears: 'When there is a pre-established technique, many professionals end up getting carried away by it and do not consider the particularities of people, leaving humanity aside to give bad news mechanically'.

**Discussion and Conclusions:** Because of the individuality of situations, families and patients the student realize that the protocol is a limited tool and it is necessary to appeal to subjectivity, based on an intuitive sensitivity, to deal with the unusual situations they encounter. This intuitive sensitivity can be fostered by paying attention to patient and family histories. Reflection on the human condition can have as its starting point the personal stories of patients and be strengthened by the human stories revealed through art. In conclusion, the tag along model allows learning in the field with real experiences, allowing the student to feel and reflect.

**Take-home Messages:** 1. Insecurity and uncertainty are part of the daily routine of all doctors, talk to your colleagues about what is going on inside you as well. 2. Learn to deal (do not ignore!) with your anguish in order to be able to deal with the anguish of the other.

## #10K Short Communications - Communication Skills

**10K3** (489)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 0.14, Level 0

### Analyzing expert criteria for authentic resident communication skills

#### AUTHOR(S):

- Heeyoung Han, Southern Illinois University School of Medicine, USA (Presenter)
- Susan Hingle, Southern Illinois University School of Medicine, USA
- Timothy Koschmann, Southern Illinois University School of Medicine, USA
- Muralidhar Reddy Papireddy, East Tennessee State University, USA
- Jacqueline Ferguson, Southern Illinois University School of Medicine, USA

#### ABSTRACT

**Background:** Effective communication is context dependent and work-process oriented. Training and assessing the skills require flexible holistic approaches rather than itemized scoring. Despite this discrepancy between assessment criteria and real-world practice, few efforts have embraced a holistic understanding of how physician-patient communication skills should unfold in real patient care. We investigated what constitutes physician communication skills in real patient encounters. This study focuses on what experts refer to when they speak about physicians' communication skills and what is treated as important when they evaluate residents' communication skills during real patient encounters.

**Summary of Work:** The residents are recorded annually as a part of their program for formative assessment of communication skills in real patient encounters. The structure of an evaluation panel: listen to the recording with the transcript, construct notes individually, then jointly develop feedback comments for the resident. For this study, the evaluation panel discussions were recorded and transcribed. Forty-one (89%) panel discussions out of 46 one year evaluation sessions were analyzed. For data analysis, we use grounded theory to discover themes emerging from the data. We received an IRB approval.

**Summary of Results:** Results showed that existing elements of communication skills are connected and inter-dependent around two concepts of thoroughness and natural flow that were neither sufficiently called for in the current assessment form nor received much treatment in the literature. Themes included (1) thoroughness within a boundary set by agenda setting, (2) making agenda setting explicit to all parties up front, (3) dynamics between natural and controlled flow, (4) question designing using both open-ended and closed questions, (5) understanding patient perspective and environments as pre-condition for patient education, (6) shared decision-making requiring patient education, and (7) empathy multifaceted and demonstrated in multiple ways.

**Discussion and Conclusions:** Findings can be utilized to improve the current training and assessment approach of physician-patient communication skills, especially formative feedback practices. The main expected outcome is to improve the residents' competence to represent holistic communication skills in real patient care.

**Take-home Messages:** Rather than sticking to a specific rubric, training and assessment criteria should evolve through authentic experiences of physician-patient communication.

## #10K Short Communications - Communication Skills

### 10K4 (3021)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 0.14, Level 0

### Culture and Human: What does it mean for medical students?

#### AUTHOR(S):

- Ozlem Surel Karabilgin Ozturkcu, Ege University Faculty of Medicine, Turkey (Presenter)

#### ABSTRACT

**Background:** As societies become increasingly multicultural, the importance of cultural competence in healthcare is increasing. In this study, it is aimed to enhance medical students' self-awareness and to improve their communication skills in the context of the main elements of culture.

**Summary of Work:** Forty second and third year students took the eight week course. The subjects of the course were: self-expression; individual traits; differences; formation and development of culture; cultural richness and cultural awareness; cultural empathy; spontaneity and creativity in intercultural communication. Psychodrama techniques were used. Cultural Intelligence Scale-CIS and Intercultural Sensitivity Scale-ISS were administered twice during the first and last week of the course.

**Summary of Results:** In the CIS, statistically significant increases were found between the scores of the students in the first and last week on metacognition ( $p:0.012$ ), and motivation ( $p:0.001$ ) subscales. There were slight increases in scores on cognition ( $p:0.360$ ), and behavior ( $p:0.168$ ) subscales. There were statistically significant increases between the scores obtained at the first and last week on the three subscales of the ISS. These subscales were responsibility in communication ( $p:0.004$ ), self-confidence in communication ( $p:0.001$ ), and enjoyment from communication ( $p:0.010$ ). There were no statistically significant score increases on the subscales of respecting cultural differences ( $p:0.703$ ), and being careful in communication ( $p:0.853$ ).

**Discussion and Conclusions:** The cognitive and affective approaches of the students towards different cultures developed positively throughout the course. In terms of cultural intelligence, it was shown that there was an improvement in medical students' high level thinking skills on culture at the end of the study. In addition, there was an increase in their willingness to interact with people from different cultures and to learn about intercultural situations. In terms of intercultural sensitivity, students have developed a sense of responsibility, self-confidence and enjoyment in communication with people from different cultures.

**Take-home Messages:** It can be planned educational activities related to communication with different cultures from an early stages of medical education curricula. Thus, medical students' cognitive, affective and behavioral approaches related different cultures can be developed. As a result, the cultural competence levels of medical students may increase until graduation.

## #10K Short Communications - Communication Skills

**10K5** (3231)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 0.14, Level 0

### Doctor-patient communication in an Iranian and Norwegian context

#### AUTHOR(S):

- **Jorgen Urnes, Dep. of Public Health and Nursing Faculty of Medicine, Norway (Presenter)**
- Assistant Professor Nick Faradonbeh, Dept. of Public Health and Nursing, Faculty of Medicine and Health Sciences, Norway
- Assistant Professor Marit Rye, Dept of Public Health and Nursing, Faculty of Medicine and Health Sciences, Norway
- Medical Student Parna Alikhani, Shahrekord University of Medical Sciences, Iran

#### ABSTRACT

**Background:** Increasing worldwide migration confronts healthcare with the consequences of a multi-ethnic society. Intercultural doctor-patient contacts are potential sources of misunderstanding and low-quality communication, which may reduce the quality of care. Causes for misunderstanding and difficulties in intercultural communication are sought in differences in perspectives, values and beliefs about illness between doctors and patients with different ethnic backgrounds. Given the growing cultural diversity among physicians and patients, and the demand for intercultural communication between doctors and patients, research is needed on the degree to which patterns of doctor-patient communication vary between cultures of countries.

**Summary of Work:** We describe and compare doctor-patient communication in an urban area of Iran and an equivalent area in Norway to explore differences in communication when performed within its own native context. Consultations are audiotaped, transcribed and analysed by frequency of categorical variables and time as continuous variable. Themes brought into the consultation by either the patient or the doctor will be explored.

**Summary of Results:** Analyses: The opening sequence of the consultations defined by the first four minutes will be analysed. Statements by patients and doctors are categorised as 'open' (inviting to a free response from patient) or 'closed' (inviting to patient to give specific answers). Furthermore, time occupied by doctor's talk and time occupied by patient will be recorded, as well as time of silence. The data recorded from each location will be compared. Both the frequency of statement categories and time registrations will be compared using relevant statistical methods. Fifteen consultations will be recorded in a random day in each study location. Preliminary results: In native Iranian Doctor-patient communication less time is spent in total, and particularly less time spent on statements building a personal relationship when compared to native Norwegian Doctor-patient communication. Further results will be investigated.

**Discussion and Conclusions:** Recognising differences in native Doctor-patient communication in different cultures will be of value for understanding differences in expectations, outcomes and training communications skills for managing multi-ethnicity in present and future healthcare.

**Take-home Messages:** Recognising differences in native Doctor-patient communication in different cultures will be of value for understanding differences in expectations, outcomes and training communications skills for managing multi-ethnicity in present and future healthcare.

## #10K Short Communications - Communication Skills

**10K6** (2654)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 0.14, Level 0

### Clinical communication for the 21st century: A faculty approach for curriculum renewal and improved graduate outcomes

#### AUTHOR(S):

- Robyn Woodward-Kron, University of Melbourne, Australia (Presenter)
- Charlotte Denniston, University of Melbourne, Australia
- Caitlin Barr, University of Melbourne, Australia
- Rebecca Wong, University of Melbourne, Australia

#### ABSTRACT

**Background:** Clinical communication teaching is established in medicine but less so in other disciplines, including audiology and dentistry. While aspects of clinician-patient communication differ across health professions, there are generic skills that can be taught faculty wide. Further, to prepare students for contemporary healthcare, communication teaching should include communication technologies as well as participatory healthcare. Current curricula rarely include these aspects or interprofessional communication.

**Summary of Work:** The initiative involves scoping faculty existing clinical communication teaching and learning and assessment activities at the University of Melbourne, Australia, in the first instance in dentistry and audiology using a template developed for the Melbourne MD. Small discipline based working groups were established for priority setting. Professional development workshops are planned, informed by recent PhD studies with observational data from student placements, as well as current clinical communication research about pedagogy, assessment, and curriculum content.

**Summary of Results:** The work is ongoing, yet the results from the working group in medicine suggest that the Community of Practice can be sustainable with regular updates, cross faculty engagement, involvement of doctoral students researching learner clinical communication, and input from international experts. Curriculum scoping can present unique challenges when clinical placements are diverse and communication teaching is implicit.

**Discussion and Conclusions:** The expected impact is both for participating clinical educators and academics in terms of increased awareness, knowledge, and improvement in teaching clinical communication. Incorporating patient partners that reflect the diversity of patients in clinical settings remains an ongoing challenge. The activities outlined in this proposal should also contribute to improved clinical communication of the health professions' students in the faculty, which can contribute to the quality of patient care.

**Take-home Messages:** A Community of Practice for a faculty wide approach to teaching, learning and promoting clinical communication holds promise as a sustainable and effective initiative for curriculum renewal and improved graduate outcomes.



## #10K Short Communications - Communication Skills

**10K7** (3496)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room 0.14, Level 0

### Medical Communication Training for Family Physicians With Self-Assessment And Patient Feedback

#### AUTHOR(S):

- **Dan Williams, American Osteopathic Association, USA (Presenter)**
- Stephen Scheinthal, American Osteopathic Association, USA
- Donn asurges Tatum, American Osteopathic Association, USA
- J. Michael Wieting, American Osteopathic Association, USA

#### ABSTRACT

**Background:** The American Osteopathic Association (AOA) is the professional home of over 130,000 Osteopathic physicians and medical students. For more than 75 years the AOA's eighteen Certifying Boards have been conferring specialty certifications for physicians. In 2013 the Certifying Boards implemented a move from ten-year recertification to a continuous process for physicians to assess and improve skills to demonstrate proficiency in their specialty area as well as the Core Competencies based on direction from the AOA Board of Trustees. (1)

Osteopathic Continuous Certification (OCC) was developed to be a practical, fluid process so the needs of the physicians could be met to help them maintain currency in their practice and compliance with their certification requirements.

**Summary of Work:** Seven hundred thirty-two diplomates of the American Osteopathic Board of Family Practice (AOBFP) completed an OCC-approved online self-paced course, "Fundamentals of Effective Medical Communication." Communication theory is applied to the real world of patient care. Alan H. Monroe's Motivated Sequence (2) (3) was adapted for use by physicians as the Medical Motivated Sequence. The course consists of 5 lessons with a brief self-assessment at the beginning of each lesson. In addition, physicians collected twenty anonymous patient surveys assessing the physician's communication skill. The data are analyzed to determine if the physicians' self-assessments are congruent with patient perceptions; how physicians regard communication skills, and whether they think they will apply the Medical Motivated Sequence. This framework assists the physician to facilitate the patient office visit to make the most efficient use of the limited available time.

**Discussion and Conclusions:** The communication module provides a consistent structure for the physician to guide the interaction; clearly explaining clinical judgment to the patient; create a well-defined plan of action for the patient; maintain mindfulness of the patient perspective; and ensure patients are informed and consent to treatment.

(1) <https://osteopathic.org/wp-content/uploads/2018/03/core-competency-compliance-program-part-3-program-director-report.pdf>

(2) Monroe, Alan H., Principles and Types of Speech. New York, NY: Scott, Foresman, and Co., 1935.

(3) McKerrow, Raymie E. et al., Principles and Types of Speech Communication, 16th edition. Chicago IL: Scott, Foresman, 2006.

## #10L Short Communications - The Teacher

### 10L1 (3473)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room L7, Level 1

### Impact of an innovative endowed chair program on medical educator recipients

#### AUTHOR(S):

- Peter ChinHong, UCSF, USA (Presenter)
- Helen Loeser, UCSF, USA
- Alissa Peterson, UCSF, USA
- Rageshree Ramachandran, UCSF, USA
- Patricia O'Sullivan, UCSF, USA

#### ABSTRACT

**Background:** In 2001, UCSF's Academy of Medical Educators launched a matched endowed chair program in support of teaching excellence, career development and professional identity formation. Like other endowed chairs the holder receives discretionary income to pursue value-added education work. Unlike other chairs, these chairs are co-funded by the School of Medicine and an academic department, and limited to two 5-year terms. What is the impact of holding an endowed chair for medical educators on individual chair holders?

**Summary of Work:** We conducted a grounded theory study, interviewing chair holders who had completed at least one term. We double-coded all transcripts and reconciled codes. When analyzing the codes we identified themes through an iterative consensus-building approach.

**Summary of Results:** Twenty-three of 24 (96%) eligible faculty members from 14 departments participated. The themes included opportunity, resources, expectations and recognition. Holding the chair provided opportunity to advocate for education within departments or beyond the institution, to network locally and globally, and to build scholarship and self-confidence. The resources allowed the holder to develop oneself and/or support learners/others. Expectations as to how to use and manage the funds for education was often not immediately obvious. With experience, holders recognized how to leverage the funds. Ultimately, the chair brought recognition as an indicator of quality and amplified visibility and status within the institution and externally.

**Discussion and Conclusions:** A model of impact emerged. Having resources and both institutional and departmental expectations allowed the holder to take advantage of opportunities. These, and just having the chair title, led to visibility and 'gravitas' as an educator. In general, an endowed chair allowed holders to escalate their commitment to medical education. Importantly, the individual increased the recognition of education in their departments, and often in their national clinical specialty. The notion of a term limitation provided focus.

**Take-home Messages:** Establishing a time-limited endowed chair program in medical education can have tremendous impact beyond the individual to the department and to the specialty in general.

## #10L Short Communications - The Teacher

### 10L2 (2477)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room L7, Level 1

### Oh my goodness, what have I done? - Exploring the experiences of non-medically qualified clinical teachers of undergraduate medical students

#### AUTHOR(S):

- Sonia Bussey, Newcastle University, UK (Presenter)

#### ABSTRACT

**Background:** In recent years, the number of non-medically trained teachers of undergraduate medical students has risen sharply, yet there have been few studies to investigate the views and experiences of these teachers.

**Summary of Work:** Semi-structured interviews were conducted with thirteen clinical teachers involved in the delivery of the FoCP rotation (delivered during year three of the MBBS programme). An inductive approach based on a social constructivist philosophy was adopted, and thematic analysis used to identify emergent themes from participants.

**Summary of Results:** Differences in professional background were associated with differences in teaching experiences and how participants identified as teachers. Clinical teachers from non-medical backgrounds found the transition from clinician to teacher of medical students more challenging than their medically trained colleagues. An additional challenge for all teachers who were not medically trained was that their colleagues may not understand their scope of practice and expertise, which may lead to them not being utilised appropriately. Lack of respect or perceived 'lower status' was experienced by some non-medical participants from students and colleagues, as was an associated lack of confidence in teaching ability. Career pathways for clinical teachers were unclear, and suitable career role models were not easily identified or available in many cases.

**Discussion and Conclusions:** Participants from non-medical professional backgrounds described some characteristics and clinical teaching experiences that differed from those of their medically qualified counterparts in terms of role structure, perceived isolation and issues of confidence and capability. Lack of perceived opportunities for career progression of non-medical teachers was evident in the findings. This is a potential concern, as clinicians motivated to become involved in clinical teaching may become discouraged if the opportunities for progression in a teaching role are not comparable with those offered by clinical posts. Non-medical teachers expressed a desire to become more involved with the university and attend networking events to establish new collaborative working relationships and raise awareness of their role and capabilities.

**Take-home Messages:** Organisations involved in medical education should seek to provide opportunities for non-medically trained teachers to identify similar colleagues to engage in professional development and to promote their role and expertise.

## #10L Short Communications - The Teacher

### 10L3 (3150)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room L7, Level 1

### The Characters of A Good Teacher - An Exploratory Study

#### AUTHOR(S):

- Lih-Yu Yi, School of Medicine, Tzu Chi University, Taiwan (Presenter)
- Shao-Yin Chu, Tzu Chi General Hospital, Taiwan
- Jo-Hsin Chao, Tzu Chi General Hospital, Taiwan

#### ABSTRACT

**Background:** A good medical teacher has many attributes, including sharing medical knowledge and the value as a medical personnel, listening and answering medical students' questions, giving constructive feedback, and promoting reflections. What makes those attributes of a good medical teacher in 21st century? Will those attributes different from the past and within different cultural setting? We hope this questionnaire study not only contributes to the wider literature, but also informs and promotes personal and administrative reflection upon faculty and student's development program.

**Summary of Work:** A mixed quantitative and qualitative questionnaire survey was conducted in School of Medicine, Buddhist Tzu Chi University. In this questionnaire, a total of 47 5-point Likert scale questions contain categories of good medical teacher trait defined from literature reviews. 6 open-ended questions are also designed to explore respondents' own point of view. IRB approved questionnaire was sent to 100 medical teachers of clinical and basic medical science and 100 medical students.

**Summary of Results:** The overall response rate is 80%. According to the results of the Likert scale data, this study includes the following six different domains: the curriculum planner and the course planner, the information provider, the mentor/ learning facilitator, the assessor, the resource developer, and the role model. According to those open questions, medical students value how their teachers spend time as students in need while medical teachers focus on the appropriate methods and attitudes when teaching. Furthermore, we can also find it's hard for teachers of basic medical science to serve as role models and to share career experience.

**Discussion and Conclusions:** The characteristics of a good teacher are alike for medical teachers and students, but the most important attribute is partially different for each other.

**Take-home Messages:** A good medical teacher is not only a knowledge provider but a role model and a true friend for students. Good teachers also take enough learning resources and supports from school.

## #10L Short Communications - The Teacher

### 10L4 (2789)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room L7, Level 1

### Tensions in perceptions of the role of 'nurse as teacher' for medical trainees

#### AUTHOR(S):

- **Asif Doja, CHEO, University of Ottawa, Canada (Presenter)**
- Carolina Lavin, CHEO Research Institute, Canada
- Chantalle Clarkin, Bruyere Research Institute, Canada
- Gerry Ashton, The Ottawa Hospital, Canada
- Laura Hopkins, The Ottawa Hospital, Canada
- Glenn Posner, The Ottawa Hospital, Canada

#### ABSTRACT

**Background:** The informal curriculum -- an essential complement to the formal curriculum -- is delivered to medical trainees through learning outside the classroom. We sought to explore nurse-mediated aspects of trainee education in the informal curriculum in obstetrics and gynecology (OBGYN), as well as nursing perceptions regarding their role in medical trainee education.

**Summary of Work:** In this qualitative, exploratory study we employed a series of naturalistic observations (40 hours over 10 days) on a tertiary care OBGYN unit. Field notes focused on interprofessional dynamics, educational opportunities, and nurse-trainee interactions were collected and synthesized. Informed by this data, we conducted focus groups with third year medical students (n=10 participants), and one-on-one interviews with OBGYN nurses (n=10). Focus group and interview audio was transcribed and analyzed thematically.

**Summary of Results:** Various themes emerged, highlighting how the educational role of nurses was conceptualized differently by nurses and medical trainees. Nurses perceived themselves as gatekeepers and patient advocates; while trainees acknowledged this important role, they did feel the gatekeeper role occasionally interfered with learning. Nurses viewed engagement as a mediator of teaching and tended to teach more to trainees who demonstrated an interest in OBGYN. Many trainees realized this, and tended to explicitly declare their interest in OBGYN in order to obtain more nurse-led teaching. Nurses also described tailoring teaching to the learner; the amount of detail they would include in their teaching depending on trainee level. Finally, nurses felt their key role was the teaching of 'hard' skills' such as procedures and the administrative aspects of OBGYN care and of 'soft skills/field wisdom' i.e. what nurses felt was not taught in textbooks. Trainees acknowledged the important role of nurses' instruction in learning 'hard skills'; however, they did not seem to appreciate the nurses' role in teaching 'soft skills/field wisdom'.

**Discussion and Conclusions:** Nurses routinely participate in the education of medical trainees. Tensions remain regarding the systematic enactment of this role.

**Take-home Messages:** Given the valuable teaching resource OBGYN nurses present, more emphasis should be placed on the actualization of this role within the informal curriculum.



## #10L Short Communications - The Teacher

### 10L5 (2775)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room L7, Level 1

### Building a better mousetrap: A utility-focused clinical teaching evaluation instrument

#### AUTHOR(S):

- Joan Binnendyk, Western University, Canada (Presenter)
- Saad Chahine, Western University, Canada

#### ABSTRACT

**Background:** Over the past decade, numerous studies have been published decrying the use of Student Evaluations of Teaching (SETs) for faculty tenure and promotion purposes due to inherent bias. However, SETs are the predominate method of capturing learner experience to provide formative feedback and enhance faculty development initiatives. The purpose of this project is to design an instrument that aligns with what learners look for and what teachers can use for self-development.

**Summary of Work:** Drawing on Patton's framework of utility-based evaluation, the development of the utility-focused clinical teaching evaluation (UF-CTE) instrument was conducted in two parts. First, a literature review of published studies in medical and higher education was conducted. A prototype evaluation was chosen as it leveraged the input of residents who contributed the qualities valued in a clinical teacher through a critical incident approach. Second, items with high correlation from this study were reviewed by key stakeholders, six clinical educators, three administrators, and one educational technologist. Discussions centred on appropriateness, relevance, and utility of the results to facilitate feedback.

**Summary of Results:** The development process was conducted in 3 rounds of refinement and resulted in a computer-based instrument with pedagogy, quality care, and competence items. The pedagogy items are on a 5-pt Likert scale (unsatisfactory - exceptional), comprised of items including devoted time and energy to teaching activities; assigned progressive responsibility with appropriate supervision; and communicated clearly and effectively. The quality care and competence items are dichotomously scored (yes/no) and comprised of items including, 'Did you receive training on patient safety?' and 'Would you refer a friend to this physician?'

**Discussion and Conclusions:** Combining research with input from learners who complete evaluation forms, faculty who are the target, administrators who value the results, and technologists who program the instrument, ensures the evaluation tool is practical and useful for everyone involved - one that balances form and function: length, level of detail, and interface with current IT processes.

**Take-home Messages:** Clinical teaching evaluations require a thoughtful, utility-based approach to ensure the instrument accurately reflects the needs of all stakeholders.

## #10L Short Communications - The Teacher

### 10L6 (306)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room L7, Level 1

### Development & Validation of Clinical Clerkship Teaching and Supervision Questionnaire (CCSTQ)

#### AUTHOR(S):

- Naghma Naeem, United Arab Emirates University-College of Medicine & Health Sciences, United Arab Emirates (Presenter)

#### ABSTRACT

**Background:** Clinical teaching learning occurs in a workplace setting. It is a complex activity dependent on the interplay between the clinical teacher, students and the learning environment. The quality of teaching learning is a prime concern in medical education to ensure that all students gain an equitable learning experience during the clerkship placements. The Clinical Clerkship Teaching and Supervision Questionnaire (CCSTQ) was developed to measure the medical students' perceptions of the quality of clinical supervision and teaching. The aim of the current study is to validate the CCSTQ.

**Summary of Work:** The CCSTQ comprises of 33 items and three background questions. The instrument was developed after a thorough literature review. A panel of clinician and medical education experts selected relevant items from previous validated instruments and added some other appropriate items. Pilot testing was done to ensure clarity of wording and meaning. The instrument was administered electronically to 340 medical students of a University in United Arab Emirates. Responses were received from 282 students (83%). An Exploratory Factor Analysis based on Principal Component Methods followed by oblique oblimin rotation was used to confirm the number of factors in the data. Confirmatory Factor Analysis (CFA) was performed to determine construct validity and dimensionality of the instrument.

**Summary of Results:** The CFA demonstrated a four-factor model. The overall Cronbach's alpha was 0.98.

**Discussion and Conclusions:** The CCSTQ is a valid instrument to assess undergraduate medical students' perceptions of the quality of teaching and supervision in a clinical learning environment.

**Take-home Messages:** The CCSTQ demonstrated high construct validity, reliability and internal consistency. It provides in depth, relevant and pertinent information regarding strengths and challenges in clinical teaching. It can be used to improve the clinical learning experience of students in clerkship.

## #10L Short Communications - The Teacher

### 10L7 (2938)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room L7, Level 1

### Can analyzing student feedback help simulation center faculty improve their teaching and professionalism?

#### AUTHOR(S):

- **Matthew Emery, Michigan State University College of Human Medicine, USA (Presenter)**
- Monica van de Ridder, Michigan State University College of Human Medicine, USA
- Lindsey Ouellette, Michigan State University College of Human Medicine, USA

#### ABSTRACT

**Background:** Students at the Michigan State University (MSU) College of Human Medicine receive over 200 hours of simulation-based clinical skills teaching during the first two years of the curriculum. Faculty observe and provide feedback, with nearly 7,000 hours of faculty-student contact scheduled. Feedback is primarily provided in small groups, creating unique challenges for maintaining a safe learning environment. Recent professionalism scandals at MSU heightened awareness of the need to identify concerning faculty behavior early, which led simulation leadership to the following questions. What are students telling us about points for improvement for our faculty? What themes are identified in negative student feedback regarding faculty?

**Summary of Work:** Students open-ended comments of negative faculty feedback for the 2017-2018 academic year were analysed using a qualitative conventional content analysis with an inductive approach (Hsieh 2005, Elo 2008). This approach is used when the theory of data under study is limited. We used open coding, axial coding and selective coding to analyze our data. In collaborative meetings, discrepancies were resolved through a process of deliberation until consensus was achieved. A member check was included to increase validity.

**Summary of Results:** 342 students completed surveys (91.7% response rate), and 111 of 126 faculty received negative comments (88.1%). 925 negative comments were submitted. A total of 81 (8.8%) comments could not be used for this study; they were too vague, positive in nature or about the curriculum. Three main themes were identified: Teaching activities (n=362, 39.1%) with the subcategories of 'assessment of the learner,' and 'methods of delivery of skills and knowledge.' Teaching style of faculty (n=143, 15.5%) with the subcategories of 'timing,' 'speaking,' 'listening' and 'learning environment.' Teacher (n=339, 36.6%) with the subcategories of 'personality (n=221, 23.9%),' 'teacher's knowledge base,' and 'unprofessional behaviors (major/minor)' (n= 86, 9.3%) such as 'being distracted,' 'discrediting the curriculum,' or 'using off color language.'

**Discussion and Conclusions:** Serious professionalism concerns were rare. The most common theme identified was related to faculty personality. Feedback often lacked specificity and some feedback was vague or contradictory. The students feedback was nonetheless provided to the faculty.

**Take-home Messages:** Students need better training on the provision of effective feedback to make it more actionable by faculty.

## #10M Short Communications - Student: Burnout and Resilience

### 10M1 (1668)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 0.94-95, Level 0

### Burnout in medical students during initial career years: mental health implications

#### AUTHOR(S):

- Carolina Pérez, Universidad Andrés Bello, Chile (Presenter)
- Hugo Orellana, Universidad Andrés Bello, Chile
- Jessica Goset, Universidad Andrés Bello, Chile
- Mariana Searle, Universidad Andrés Bello, Chile
- Verónica Silva, Universidad Andrés Bello, Chile
- Ricardo Ramirez, Universidad Andrés Bello, Chile

#### ABSTRACT

**Background:** Burnout is a common syndrome in medical students due to the personal resources deployed in response to academic demands. There is little evidence about the effects of burnout on critical cognitive learning parameters such as attention, memory and metacognitive skills, neither on the relationship between burnout and mental health. The relationship between burnout with anxiety and engagement; and its effect on cognitive parameters was evaluated in second year medical students.

**Summary of Work:** A descriptive transversal study was conducted. Applying the Maslach Burnout Inventory, 46 second-year students were divided into presence or absence of burnout. The following tests were also applied: cognitive meta-attention (Five Facet Mindfulness Questionnaire); Subjective memory (Failures of memory in everyday life); Attentional capacity (Sustained Attention to Response Task); Anxiety (Anxiety-State Scale) and Engagement (Engagement Survey). Informed consent was obtained. Inferential statistical analysis was used ( $p < 0.05$ ).

**Summary of Results:** 30% of students have severe burnout (three diagnostic criteria). A meaningful decrease in the ability to remember daily life events and meta-attention is observed. Sustaining attention was modulated by burnout. 86% of students that have low or very low engagement, have burnout. Anxiety, has no relation with the statistically significant syndrome, however, a general tendency of the sample to present levels of permanent anxiety (trait anxiety) is reported.

**Discussion and Conclusions:** Significant percentage of students have a severe state of burnout, affecting functions necessary for learning: attention, memory and the ability to engage. This is worsened by high levels of baseline anxiety. Self-observation could be considered as a protective factor in the syndrome. Early in the career diagnosis could show students at risk in their cognitive functioning. Results obtained would account for the relevance of affectivity within the students learning process.

**Take-home Messages:** These findings reinforce the need to establish preventive measures to ensure correct training and quality of life for students.

## #10M Short Communications - Student: Burnout and Resilience

### 10M2 (1157)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 0.94-95, Level 0

### Implementing a Burnout Prevention and Education Program in a Physician Assistant Program

#### AUTHOR(S):

- Heidi Brown, Idaho State University, USA (Presenter)
- Jennifer Forbes, Idaho State University, USA
- Talia Sierra, Idaho State University, USA
- Melanie Domenech Rodriguez, Utah State University, USA

#### ABSTRACT

**Background:** Provider burnout has been linked to higher medical error rates, slower patient recovery times, greater malpractice lawsuits and higher turnover. It affects retention in the profession and quality of patient care. It leads to higher suicide and depression rates. This study aims to determine if implementing a burnout education and student wellness program decreases burnout and burnout sequelae in a physician assistant (PA) program students.

**Summary of Work:** A Student Wellness and Burnout Prevention Program (SWBPP) was established at three separate campuses of a PA program. This program provided burnout education and prevention skills PA students while creating an environment aimed to reduce student stress and foster support among faculty and students. The voluntary program held guided monthly meetings, with the option for students to meet more frequently. All students completed an initial survey, regardless of their intent to participate, to collect data on burnout, depression, and support from fellow classmates and faculty. The survey was re-administered at the conclusion of the SWBPP. Survey results were compared between those who participated in the program with those who did not.

**Summary of Results:** Final results will be available in June, 2019. A mixed analysis of variance (Mixed ANOVA) with time (pre, post) as the within-subjects condition and group (participated, did not participate) will yield information regarding main effects for time, group participation, and the interaction between group membership and time on a variety of outcomes with particular emphasis on student mental health (distress, burnout, substance use).

**Discussion and Conclusions:** It is important that the habits of professional practice and self-care develop during healthcare professional training, including burnout prevention. Providing specific education sets the stage for being prepared to recognize and cope with burnout; doing it in a group format, prepares students to understand the importance of a quality wellness program, peer support, and the positivity that follows.

**Take-home Messages:** -Burnout is a problem in the healthcare field. - Students feel burnout education is beneficial. - Burnout education and a wellness program is important to implement in healthcare training programs.



## #10M Short Communications - Student: Burnout and Resilience

### 10M3 (2787)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 0.94-95, Level 0

### Burnout syndrome in medical students and association with poor sleep quality, sedentary lifestyle and use of psychotropic drugs

#### AUTHOR(S):

- **Arnaldo Aires Peixoto Junior, Centro Universitário Christus (UNICHRISTUS), Brazil (Presenter)**
- Priscila Brasil de Carvalho Rocha, Centro Universitário Christus (UNICHRISTUS), Brazil
- Talita Mendes Bezerra Ximenes, Centro Universitário Christus (UNICHRISTUS), Brazil
- Emmanuella Passos Chaves Rocha, Centro Universitário Christus (UNICHRISTUS), Brazil
- Raquel Autran Coelho, Centro Universitário Christus (UNICHRISTUS), Brazil
- Marcos Kubrusly, Centro Universitário Christus (UNICHRISTUS), Brazil

#### ABSTRACT

**Background:** Burnout syndrome is characterized by emotional exhaustion, a feeling of reduced labor productivity and depersonalization. It can occur in individuals under constant and prolonged emotional tension in the professional context. Among medical students, this emotional tension is frequent and may result in an increase in the prevalence of this condition. Therefore, with this work we seek to investigate the prevalence of burnout syndrome and associations with health indicators among medical students.

**Summary of Work:** A cross-sectional, descriptive and retrospective study of medical students from the first to the eighth semester of a university center in the northeast of Brazil during the period of August to December of 2018. After signing the Free and Informed Consent Term, the students answered a structured questionnaire to investigate lifestyle habits and use of medications. The Maslach Burnout Inventory - Student Survey and the Pittsburgh Sleep Quality Index were applied. The study was approved by the research ethics committee of the institution. For data analysis, the IBM SPSS Statistics software version 20.0.0 was used.

**Summary of Results:** A total of 523 medical students were evaluated and the prevalence of burnout syndrome was 9.2%. The median age was 21 (20 - 23) years and the majority was female (63.5%). There was no difference in age and sex among students with this condition or not. Among students with burnout syndrome, a lower percentage of appropriate place to study at home (10.7 vs. 20.8%,  $p = 0.038$ ) and lower practice of physical activity (8.3 vs. 29.1%,  $p = 0.010$ ) were identified. Students with burnout syndrome used more anxiolytics (20.8 vs. 6.1%,  $p < 0.001$ ), more antidepressants (27.1 vs. 7.4%,  $p < 0.001$ ) and had a higher prevalence of poor sleep quality (77.1 vs. 51.6%,  $p < 0.001$ ).

**Discussion and Conclusions:** Burnout syndrome in medical students was frequent, associated with sedentary lifestyle, poor sleep quality, and frequent use of psychotropic drugs. The possibility of perpetuating this condition after graduation alerts to the need for a preventive approach during the medical course.

**Take-home Messages:** Burnout syndrome in medical students is frequent and is associated with indicators that have a negative impact on health.

## #10M Short Communications - Student: Burnout and Resilience

### 10M4 (1434)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 0.94-95, Level 0

### Learning strategies of Chilean medical students change along clinical training and predict their levels of burnout and wellbeing at graduation

#### AUTHOR(S):

- **Guadalupe Echeverría, Pontificia Universidad Católica de Chile, Chile (Presenter)**
- Denisse Zúñiga, Pontificia Universidad Católica de Chile, Chile
- Oslando Padilla, Pontificia Universidad Católica de Chile, Chile
- Maribel Calderón, Universidad Bernardo O'Higgins, Chile
- Marcela Bitran, Pontificia Universidad Católica de Chile, Chile

#### ABSTRACT

**Background:** Transition to clinical training poses a learning challenge to medical students; they have to adapt their study approaches in order to learn from clinical experiences within complex health-care settings. This transition is marked by increases in stress levels and burnout prevalence. Aim. To characterize medical students' learning strategies along the clinical training and determine whether these strategies predict students' burnout and wellbeing status at graduation.

**Summary of Work:** 700 medical students (43.7% females) from eleven Chilean universities were evaluated at the beginning (T1) and two years later, at the end of their clinical training (T2). Participants answered validated questionnaires of burnout (Maslach Burnout Inventory), psychosocial wellbeing (Mental Health Continuum Short Form) and clinical learning strategies (Clinical Learning Strategies Questionnaire, CEACLIN). CEACLIN is a 48-item scale rated with a 4-point frequency scale and comprised of four dimensions: Academic Engagement (AE), Study Techniques (ST), Emotion Regulation (ER) and Stress Management (SM).

**Summary of Results:** Students changed their clinical learning strategies: the use of AE (i.e. autonomy-seeking and proactive behaviors, and resorting to others) and ER strategies decreased whereas ST and SM strategies use increased. The likelihood of suffering burnout at T2 was associated with a less frequent use of SM strategies two years before. On the other hand, the chances of being in a flourishing state in T2 were associated with a more frequent use of AE and ST strategies in T1.

**Discussion and Conclusions:** Medical students change their learning strategies along the clinical training decreasing their engagement and emotional regulation in favor of the use of study and stress management techniques. The state of burnout and flourishing at the end of the undergraduate studies was significantly associated with the type of clinical learning strategies used two years before.

**Take-home Messages:** The learning strategies used by medical students change along the clinical training years. This probably reflects an attempt to cope with the increased academic challenges. Acquiring tools to better deal with stress and to enhance the academic engagement early in medical career could decrease students' vulnerability to burnout and increase their chances of achieving higher levels of wellbeing.

## #10M Short Communications - Student: Burnout and Resilience

### 10M5 (232)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 0.94-95, Level 0

### Clinical training stress and professional quality of life among medical students: the buffering effect of resilience and its determinants

#### AUTHOR(S):

- Blossom Yen-Ju Lin, Chang Gung University, Taiwan (Presenter)
- Yung Kai Lin, Chiayi Branch, Taichung Veterans General Hospital, Taiwan
- Chia-Der Lin, China Medical University and Hospital, Taiwan
- Der-Yuan Chen, China Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Resilience is a flexible, adaptive act that occurs in response to challenges. This study aimed to explore whether medical students' resilience plays a protective role against stress incurred during workplace training and on their professional quality of life during clerkships (Hypothesis 1) and whether resilience development can be determined from their preclinical school life (Hypothesis 2).

**Summary of Work:** This was a 1-year prospective cohort web-based questionnaire study comprising one cohort of medical students in their fifth year of clerkships at one medical school in Taiwan between September 2017 and July 2018. Web-based, validated, and structured self-administered questionnaires were used. Medical students' demographics (i.e., sex and age), personal characteristics (i.e., grit and resilience), and preclinical school life (i.e., psychosocial support, mentoring, social and health activities, and school climates) were measured at the beginning of their clerkships. Their perceived training stress (i.e., physical and psychological demands) and professional quality of life (i.e., burnout and compassion satisfaction) at each specialty rotation were routinely measured. Ninety-three medical students were included. Hierarchical regressions and a multiple regression analysis were performed, respectively, for testing Hypothesis 1 and 2.

**Summary of Results:** The medical students' perceived training stresses were related to higher burnout and worse compassion satisfaction in clerkships, but their resilience could buffer the negative effects of their perceived physical demands but not psychological demands. Medical students' grit and preclinical school life played crucial roles in developing their resilience properties; grit especially demonstrated a relatively larger explanatory power than other factors.

**Discussion and Conclusions:** Medical students' resilience could be a buffer against the negative effects of physical demands on their professional quality of life but not against those of psychological demands in workplace training. Grit among medical students' could be further explored to determine the degree to which it is a product of nature versus nurture.

**Take-home Messages:** Clinical training produce training stresses negative to medical students' professional quality of life. Resilience is a buffer for the negative effects derived from physical demands in training. Grit seems to play a relatively important role in medical students' resilience compared with other factors.

## #10M Short Communications - Student: Burnout and Resilience

### 10M6 (2436)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 0.94-95, Level 0

### The longitudinal effect of grit on academic achievement among Japanese medical students

#### AUTHOR(S):

- Yusuke Karouji, Kansai Medical University, Japan (Presenter)
- Katsumi Nishiya, Kansai Medical University, Japan

#### ABSTRACT

**Background:** Medical students need to intensively study and train over a period of years. 'Grit' has recently attracted attention as a factor that underpins such a persistent level of effort. Grit is defined as 'perseverance and passion for long-term goals,' and it consists of two factors: perseverance of effort and consistency of interest. Grit has shown to have positive correlations with academic achievement, retention within specific programs, and participation in sports activities. However, little is known about how grit affects longitudinal achievement. This study examined whether grit predicted cumulative grade point average (GPA) after a year among Japanese medical students. In addition, we examined how grit influenced class attendance and club activities, which most Japanese medical students engage in.

**Summary of Work:** Four hundred forty-six undergraduates from the first to the fourth year at Kansai Medical University in Japan completed the Short Grit Scale at the beginning of the first semester. This scale consisted of four items measuring perseverance of effort and four items measuring consistency of interest. At the end of the first semester, the students reported their frequency of class attendance and the hours per week spent in club activities on a 5-point scale. The cumulative GPA was obtained at the end of the second semester.

**Summary of Results:** The results revealed that perseverance of effort (but not consistency of interest) showed a significant positive correlation with GPA ( $r = .12$ ). A path analysis revealed that perseverance of effort predicted higher class attendance ( $B = .20$ ), which predicted a higher GPA ( $B = .31$ ). Perseverance of effort also predicted the greater time spent in club activities ( $B = .19$ ), which in turn predicted a lower GPA ( $B = -.13$ ).

**Discussion and Conclusions:** The results show that grit affected long-term academic achievement (i.e., cumulative GPA) both positively and negatively: Grit positively affected GPA through higher attendance and negatively through greater participation in club activities, respectively. It indicates that we should consider the goals to which students dedicate their grit.

**Take-home Messages:** Grit positively influences academic achievement through class attendance but negatively through participation in club activities.

## #10N Short Communications - Community and Rural Based Education

### 10N1 (84)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 2.15, Level 2

### Identifying the learning objectives of clinical clerkship in community health (CCC) in Japan: Focus Group

#### AUTHOR(S):

- Daisuke Kato, Department of Family Medicine, Mie University Graduate School of Medicine, Japan (Presenter)
- Hideki Wakabayashi, Department of Community Medicine, Kameyama, Mie University School of Medicine, Japan
- Akiteru Takamura, Department of Medical Education and Community Medicine, Kanazawa Medical University, Japan
- Yousuke C. Takemura, Department of Family Medicine, Graduate School of Medical and Dental Sciences, Tokyo Medical and Den, Japan

#### ABSTRACT

**Background:** The importance of medical education in the community has been recognized globally. World Federation for Medical Education emphasized in 2015 the importance of medical education in various settings in the community. In Japan, the Model Core Curriculum for medical education stated the necessity of clinical clerkship in community health (CCC) in 2016, as well. On the other hand, learning objectives of CCC and the concrete strategy for CCC have not been clearly established in Japan yet.

**Summary of Work:** We conducted six focus groups (n=35) at three prefectures in Japan from 2017 to 2018, with medical professionals and inhabitants, who were involved in CCC. We recorded, transcribed, and analyzed the discussion thematically. In the analysis, we used the SPICES model as a conceptual framework.

**Summary of Results:** We extracted 13 domains for learning objectives: 'professionalism', 'medical knowledge and ability to solve problems', 'medical skills and patient care', 'communication skills', 'team-based care', 'quality and safety management in medical care', 'medical care in society', 'scientific inquiry', 'lifelong learning attitude', 'future-oriented systematic view', 'organic integration of knowledge/skill', 'understanding of the community,' and 'awareness as an individual physician' The latter four domains were not found in 'Basic Qualities and Capacities for Physicians' in the Model Core Curriculum in Japan.

**Discussion and Conclusions:** This study had mainly two strengths. First, we conducted this study in various settings: a mountain/seacoast area, and a city/rural area. For example, at Mie University, many types of medical professionals and inhabitants have involved in CCC for four weeks in the community: health care centers and other community health care settings. Second, some participated physicians belonged to both a university and a community hospital/clinic. The outcome of this study would reflect the community needs and academic perspective.

**Take-home Messages:** We explored the learning objectives of CCC by focus groups targeting medical professionals and inhabitants in communities. Some domains we found were specific in CCC. We hope these learning objectives are useful for the further improvement of CCC in Japan in the future.



## #10N Short Communications - Community and Rural Based Education

### 10N2 (2675)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 2.15, Level 2

### Re-thinking the purposes and practices of community based medical education

#### AUTHOR(S):

- Clare Morris, Barts & The London School of Medicine and Dentistry, Queen Mary University London, UK (Presenter)
- Louise Younie, Barts & The London School of Medicine and Dentistry, Queen Mary University London, UK

#### ABSTRACT

**Background:** Community Based Medical Education (CBME) offers vital insights into what it means to care holistically, how to manage uncertainty and complexity and what it means to be a General Practitioner (GP). The challenges of ensuring that students are able to access authentic clinical learning experiences are ever increasing, not least due to nation-wide challenges faced in recruiting and retaining GPs.

**Summary of Work:** We believe that is time to re-think approaches to CBME. Drawing on the conceptual and methodological tools offered from Activity Theory (Engestrom 2001), we devised a modified change laboratory that offered opportunities to analyse existing practices and imagine new ones. We ran 4 sessions, lasting between 1 and 2 hours, involving GP Tutors, Medical School Faculty, Medical Students and Physician Associate Students. The emphasis of each session was to consider the purposes of offering students clinical placements in community settings and how we might make best use of an increasingly scarce resource.

**Summary of Results:** Our preliminary analysis reveals tensions between the desired purposes of CBME and the practices traditionally adopted. For example, GP Tutors wish to offer students insights into how health systems work and what it means to be a GP and/or how GPs practice. In reality, they feel constrained by historical approaches to teaching that emphasise (body)systems-based teaching and the collection of procedural skills in student logbooks. Students experience tensions between the wide learning GP placements offer and the narrow imperatives created by summative assessments.

**Discussion and Conclusions:** The change lab approach offers deep insights into the ways in which CBME is conceptualised by faculty in medical school and placement environments and how it is experienced by students. It offers up contextually rich suggestions of ways to make better use of clinical placements.

**Take-home Messages:** An Activity Theory approach moves the researchers gaze from individual learner to the interactions between the learning environments they operate in. Change Lab methodology can be adopted and adapted to inform curriculum developments and shape pedagogic practices.

## #10N Short Communications - Community and Rural Based Education

10N3 (2011)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 2.15, Level 2

### Non-clinical community clerkships: experiences from University Medical Center Utrecht

#### AUTHOR(S):

- Conny Seeleman, UMC Utrecht, the Netherlands (Presenter)
- Ruben Schmits, University Medical Center Utrecht, the Netherlands
- Stella Martens, University Medical Center Utrecht, the Netherlands
- Marielle Jambroes, University Medical Center Utrecht, the Netherlands

#### ABSTRACT

**Background:** Good health cannot be achieved by focusing solely on treating disease. In most European countries health gaps exist between groups, related to social determinants of health (SDoH). At the same time, healthcare changes: there is a shift from hospital care to outpatient and primary care and society expects increasing self-management of its citizens. This means future physicians have to learn more about SDoH and how to take patients' social context into account. Additionally, interdisciplinary collaboration with professionals in the social domain is important. However, medical curricula still train students predominantly within the hospital setting.

**Summary of Work:** We developed an innovative one-week community clerkship for all fifth-year medical students at UMC Utrecht. Students follow this clerkship in a variety of community care and welfare organizations (e.g. social community teams or organizations that support psychiatric patients or migrants). Learning goals are: students experience the social context of health(care); students get acquainted with vulnerable groups and social domain professionals; and students learn what self-management means in patients' daily lives. The students conclude the week with a reflection paper.

**Summary of Results:** Since 2017, 250 students fulfilled this clerkship. Participating social organizations appreciate the clerkship because they experience the need to train future doctors about SDoH. Also, the majority of students experience the relevance of this week. Learning about clients in their everyday life is much appreciated by students, as well as getting insight in the social domain. The reflection papers show that students learn about SDoH, however they find it difficult to relate these experiences with their future work as a physician.

**Discussion and Conclusions:** We succeeded to develop a valued clerkship that provides students insight in SDoH and vulnerable groups. Nevertheless, we experience that learning goals are not fully achieved. In further development of this clerkship we aim for a new reflection method in which students receive daily reflection exercises to increase learning outcomes.

**Take-home Messages:** - A community oriented clerkship can contribute to students' insight in the relevance of SDoH and vulnerable groups' daily lives. - Students need support in relating community experiences to future work as physicians.

## #10N Short Communications - Community and Rural Based Education

### 10N4 (1994)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 2.15, Level 2

### Fostering Socially Accountable Rural Health Research through Longitudinal Faculty Development

#### AUTHOR(S):

- **Shabnam Asghari, Memorial University of Newfoundland, Canada (Presenter)**
- Thomas Heeley, Memorial University of Newfoundland, Canada
- Cheri Bethune, Memorial University of Newfoundland, Canada
- Wendy Graham, Memorial University of Newfoundland, Canada

#### ABSTRACT

**Background:** Rural faculty often encounter questions that matter to their patients but lack the skills to investigate them through research. Memorial University of Newfoundland (Newfoundland & Labrador, Canada) launched 6for6 to address these issues.

**Summary of Work:** 6for6 is a longitudinal faculty development program focused on improving the research skills of rural faculty at Memorial University. Named after its unique design where six rural faculty are sponsored to attend six face-to-face educational sessions annually, 6for6 uses a tailored curriculum to empower participants during and between sessions to pursue socially accountable, rurally relevant research projects.

**Summary of Results:** We assessed the needs of our rural faculty and devised a blended curriculum to address identified areas for training in scholarship and common barriers to conducting research. The final curriculum is divided into six two-day small group learning sessions using synchronous face-to-face workshops supplemented by a dedicated research assistant, individual mentorship from academics, and asynchronous online content (e.g., readings, videos, activities, assignments). Each participant develops their own research project that emerges from their rural context while learning applicable research skills. Peer review in each session provides pragmatic feedback and opportunities for learning from and contributing to several authentic research projects. The program is also continuously assessed and improved using face-to-face discussion, pre-post surveys, and an end-of-program focus group. To date, thirty rural faculty have participated across five years of the program. Each has pursued a research project addressing a health issue in their community, resulting in 10 publications and \$3 in grants for every \$1 Memorial University invests in the program.

**Discussion and Conclusions:** 6for6 has empowered its participants to conduct impactful, socially accountable health research. This success is attributable to vigilant support from faculty mentors and staff, and a meticulously tailored curriculum that promotes professional networking and a safe learning environment that is responsive to participant needs.

**Take-home Messages:** Longitudinal faculty development programming can empower rural faculty to conduct socially accountable research. The curriculum should be supported by passionate faculty and staff, tailored to the needs of participants, incorporate peer engagement and feedback and be responsive to changes in those needs.

## #10N Short Communications - Community and Rural Based Education

10N5 (2322)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 2.15, Level 2

### North and south: Rural medicine attracts students with a similar approach to learning

#### AUTHOR(S):

- Kylie Mansfield, University of Wollongong, Australia (Presenter)
- Anita Iversen, The Arctic University of Norway, Norway
- Maja-Lisa Lochen, The Arctic University of Norway, Norway
- Torsten Tisor, The Arctic University of Norway, Norway
- Lyndal Parker-Newlyn, University of Wollongong, Australia
- Gregory E Peoples, University of Wollongong, Australia

#### ABSTRACT

**Background:** The shortage of rural doctors has led medical schools worldwide to focus on training doctors for underserved communities. Doctors in rural areas are often isolated and need to be independent and self-directed. The aim of this cross-cultural study was to compare learning approaches of students in two geographically separate medical schools that focus on producing doctors with a desire to practice rural medicine.

**Summary of Work:** Medical students from Wollongong University (Australia), a graduate-entry 4 year medical program (n=158, mean age 26 years), and, the UiT the Arctic University of Norway, an undergraduate 6 year program (n=110, mean age 21 years,  $P < 0.0001$ ), were included. Three instruments were administered during the first study month. The study process questionnaire was resolved into deep or surface learning approaches. Student achievement goal orientation, a measure of self-directed learning capacity, was resolved into learning goal and performance goal orientation. Exploratory factor analysis of the learning disposition survey results were resolved into four factors: curious, creative, conscientious and routine. Comparisons between the responses from the two Universities were made using unpaired t-tests.

**Summary of Results:** Medical students from both countries had similar scores for deep learning ( $P 0.64$ ), performance goal orientation ( $P 0.087$ ) and creativity ( $P 0.39$ ). However, the Norwegian students had higher scores for surface approaches ( $P < 0.0001$ ), and lower scores for learning goals orientation ( $P 0.011$ ), and they displayed higher scores for conscientiousness ( $P 0.05$ ) and routine ( $P < 0.0001$ ) while the Australian students were more likely to be curious ( $P 0.0033$ ).

**Discussion and Conclusions:** Students from both cohorts had similar deep approaches to learning which probably correlate with success in medical school. Australian medical students had higher scores for learning goal orientation indicating a strong self-efficacy and more adaptive responses to challenging learning situations. Differences could be due to age or selection methods as entry into UiT is based on prior academic performance while selection in the Australian school is based on academic success and portfolio and interview.

**Take-home Messages:** - Rural medical education attracts students with a similar approach to learning. - Selection methods and age might define students learning goal orientation at entry.

## #10N Short Communications - Community and Rural Based Education

### 10N6 (1711)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 2.15, Level 2

### Understanding the factors affecting student performance in rural and metropolitan campuses

#### AUTHOR(S):

- Jessica Macer-Wright, University of New South Wales Rural Clinical School, Australia (Presenter)
- Boaz Shulruf, University of New South Wales Office of Medical Education, Australia
- Lesley Forster, University of New South Wales Rural Clinical School, Australia
- Linda Ferrington, University of New South Wales Rural Clinical School, Australia

#### ABSTRACT

**Background:** In 2017, 177 local and rural students commenced the 6-year undergraduate medicine program at the University of New South Wales (UNSW). Of these students, 14 became the first to embark on their entire medical degree in a rural setting at a Go8 University by commencing at the Port Macquarie (PMQ) campus of UNSW's Rural Clinical School (RCS). Increased exposure of medical students to a rural medical environment is associated with increased regional and rural career preferences, although few studies have examined the educational outcomes of rural medicine training programs. While students' education in a rural setting may be enriched by their environment, equally their studies may be compromised by the unique challenges experienced in this setting. Thus, we sought to examine the performance outcomes of the first two years of delivery of the full UNSW medicine program in a rural setting.

**Summary of Work:** Examination data from all 177 students was included in this study. A multiple regression analysis was carried out to investigate the factors affecting student performance. The independent variables included: demographics, admission path, admission scores and campus of study. The dependent variables consisted of student academic and clinical skills examination outcomes.

**Summary of Results:** The results of the regression indicated that the model explained 10.5% ( $R^2=0.105$ ) of the variance and that the model was a significant predictor of weighted average mark (WAM);  $F(9,167) = 2.182$ ,  $p=0.026$ . Studying at the PMQ campus was the strongest statistically significant predictor of WAM outcome ( $B=6.597$ ,  $p=0.039$ ), when the other independent variables were controlled for.

**Discussion and Conclusions:** The data describes only a small percentage of the variation in WAM, possibly due to a small sample size. With continued study of future cohorts we will more fully understand the impact of campus on overall performance. Future studies will include a comprehensive evaluation of the impact of rural training on medical student education, and an exploration of the benefits of access to a full medical program in a rural setting.

**Take-home Messages:** These preliminary results demonstrate that the Phase 1 undergraduate medical education programme introduced at UNSW RCS does not compromise the performance of medical students and may improve outcome measures for students.



## #10N Short Communications - Community and Rural Based Education

### 10N7 (3178)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room 2.15, Level 2

### Experiences from the implementation and pilot of a Rural Elective in a Brazilian University: feedback from students

#### AUTHOR(S):

- Ana Julia Araujo de Carvalho, Universidade Federal de Uberlandia, Brazil (Presenter)
- Fernanda Arantes Mendonça Toledo Almeida, Universidade Federal de Uberlandia, Brazil
- Mayara Floss, Rural Seeds, Brazil
- Erica Maria Ferreira de Oliveira, Universidade Federal de Uberlandia, Brazil
- Marcela Araujo Oliveira, Universidade Federal de Uberlandia, Brazil

#### ABSTRACT

**Background:** According to the World Health Organization, 50% of the population lives in rural areas, however just 24% of the doctors work in them. Some factors influences doctors moving from an urban to a rural area and, one of the most important, is if the doctor had experienced rural health during their medical education. The aim of this study is to show the potentialities and difficulties of building a rural internship program in a countryside university in Brazil.

**Summary of Work:** The Federal University of Uberlandia (UFU), in Brazil, is building a rural internship program, the idea was raised by the students advocacy. Currently, the students spend one month, during the family physician rotation, in a locality near the University, doing activities in the primary care facilities and emergency department. To evaluate that experience, it was performed a focal group with 20 students, for share positive and negative points in the rural rotation.

**Summary of Results:** The students pointed as negative the lack of experience of supervisors. Some did not have a supervisor to guide the patient care in primary care facilities and in emergency department. Despite this, they understand that the reality that they were exposed to is frequent in Brazil, and agreed that this rotation is necessary in the graduation. The students were asked if they consider working in a rural area after the experience and all said yes.

**Discussion and Conclusions:** The lack of structure and human resources are barriers for the implementation of a rural internship at UFU. Despite all odds, the pilot of implementation of the rural elective could work as a catalyzer for students and open new opportunities.

**Take-home Messages:** Rural practices should be encouraged to improve medical recruitment and retention in rural areas.

## #100 Short Communications - Feedback

1001 (3468)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 2.31, Level 2

### A Scoping Review of how Learners Use, Seek and Respond to Feedback

#### AUTHOR(S):

- **Muirne Spooner, Royal College of Surgeons in Ireland, Ireland (Presenter)**
- Teresa Pawlikowska, Royal College of Surgeons in Ireland, Ireland
- Catherine Duane, Royal College of Surgeons in Ireland, Ireland
- Paul Murphy, Royal College of Surgeons in Ireland, Ireland
- Samuel McConkey, Royal College of Surgeons in Ireland, Ireland

#### ABSTRACT

**Background:** There is strong evidence that feedback messages and responses to them vary. However little is known of medical students' feedback recipience in terms of how it affects their follow-up learning. The purpose of this review is to map the landscape of what is currently known regarding feedback-seeking behaviours and response to feedback among undergraduate and postgraduate learners in health professions' education.

**Summary of Work:** A scoping review was conducted to explore how learners use, seek and respond to feedback. The Joanne Briggs Institute protocol was utilised. The following databases were searched: Pubmed Medline, PsychInfo, Embase, CINAHL, Emerald and Health Business Elite. Citation searching was also conducted. 3,486 papers were identified initially. Screening, data extraction and analysis procedures were performed by two independent reviewers using a consensus approach.

**Summary of Results:** The following themes emerged concerning feedback: definition, formats, stimulus and response matters. Additionally, much of the literature focusses on the nature of feedback, rather than behavioural elements associated with the learner. Importantly studies often did not provide a definition of feedback. The most common formats of feedback were performance data, e.g. correct results, haptic metrics, etc. In most studies the feedback stimulus was either a written assessment (usually MCQs) or a clinical examination- WBAs or OSCE. Feedback response was categorised under three headings- repeat assessments, affective response and cognitive response. The former was in the majority: many studies equated improved assessment performance with proof of feedback efficacy. The next main category were studies which surveyed learners on the value/usefulness of feedback, which was invariably positive. Only a minority of papers addressed cognitive response, and most involved learners' self-report on learning behavioural changes or planned changes. Theories of feedback and/or conceptual frameworks were not referenced or mobilised frequently, nor were learners' use of feedback or feedback-seeking behaviours.

**Discussion and Conclusions:** There is heterogeneity in conceptualization of feedback and thus, feedback recipience. Indirect measures, including assumptions on how learners use and/or respond to feedback are frequently reported.

**Take-home Messages:** Future research should be directed towards explicit examination of these factors with a more theoretical focus to inform study design.

## #100 Short Communications - Feedback

**1002** (285)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 2.31, Level 2

### Using Deliberate Practice Framework to Assess the Quality of Feedback in Undergraduate Clinical Skills Training

#### AUTHOR(S):

- Reina Abraham, Nelson R Mandela School of Medicine, South Africa (Presenter)
- Veena Singaram, Nelson R Mandela School of Medicine, South Africa

#### ABSTRACT

**Background:** Performance feedback to clinical learners ultimately impacts on their development into competent clinicians. Students' concerns with inconsistency in the nature of feedback provided by clinicians in the clinical skills laboratory led to implementation of a standardized clinical skills logbook feedback instrument which included a feed-forward improvement strategy. The instrument was also extended for peer assessment. This study aims to assess the quality of feed-forward in feedback using the deliberate practice framework.

**Summary of Work:** A feedback scoring system was used to retrospectively assess the quality of tutor and peer feedback provided to second and third year medical students to identify deliberate practice components i.e. task, performance gap and action plan. The sample consisted of 425 second year and 600 third year feedback responses over a year.

**Summary of Results:** All three deliberate practice components were observed in the majority of the written feedback for both classes. The frequency was higher in peer (83%, 89%) than tutor logbook assessments (51%, 67%) in both classes respectively. Average tutor and peer task, gap and action feedback scores ranged from 1.84 - 2.07 and 1.93 - 2.21 respectively. The overall quality of feed-forward in feedback provided by the tutor and peer was moderate and less specific (average score < or =2). The absence of the three components was noted in only 1% of the feedback responses in both 2nd and 3rd year.

**Discussion and Conclusions:** This study found that adding in a feed-forward strategy to the logbooks increased the overall quality of tutor and peer feedback as the task, gap and action plans were described. The findings from our study suggest that the ratings from the tool can also be used as guidelines to provide feedback providers with feedback on the quality of feedback they provided.

**Take-home Messages:** Rating feedback using a framework based on deliberate practice allows for objective evaluation of feedback and can be used for faculty development and training. Medical educators might be able to provide higher quality feedback by better articulating to trainees the gap between their performance and an expert standard, and provide them with specific learning plans.

## #100 Short Communications - Feedback

1003 (2301)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 2.31, Level 2

### Content of Feedback for Test-Enhanced Transfer of Learning

#### AUTHOR(S):

- Anna Ryan, University of Melbourne, Australia (Presenter)
- Kulamakan Kulasegaram, University of Toronto, Canada
- Terry Judd, University of Melbourne, Australia
- Douglas Larsen, Washington University School of Medicine, USA
- David Swanson, American Board of Medical Specialties & University of Melbourne, USA & Australia

#### ABSTRACT

**Background:** The role of feedback in test-enhanced learning is an understudied area that has potential for valuable impact in medical education. Optimizing feedback is an especially promising approach to maximising the benefits of formative testing to support transfer of learning. This study investigates the impact of different forms of post-test feedback on transfer of medical knowledge within a test-enhanced learning framework.

**Summary of Work:** 64 participants from two medical schools in Canada and Australia sat two single-best-answer MCQ tests one week apart. We compared conceptual feedback with item-level feedback providing explanations for right and wrong answers with feedback showing only the right answer without explanation. On the first test occasion, participants sat parent items with feedback, and then attempted items which were closely related (near transfer) and more distant (far transfer) in relation to the parent items. In a repeat test at one week, participants sat different items which were near- and far-transfer versions of original parent items. Feedback type, and near- and far-transfer items were randomized within and across participants.

**Summary of Results:** On both test occasions, participants performed better following item-level and conceptual feedback compared to right/wrong feedback. For items originally answered incorrectly, there was a main effect of feedback with item-level and conceptual feedback being superior to right/wrong feedback ( $p < 0.001$ ) for near transfer. No significant differences were seen for items originally answered correctly or for far-transfer items.

**Discussion and Conclusions:** Right/wrong feedback appears to have limited test-enhanced learning potential. Item-level feedback and feedback that identifies and elaborates on key conceptual knowledge appears equally effective when participants answer test items that are very closely related to the original items.

**Take-home Messages:** Near transfer of knowledge appears greater when feedback contains elaboration of conceptual knowledge necessary for building a diagnostic schema or when feedback contains a brief explanation of the correct answer and distractors. Re-presentation of test items with correct responses appears relatively ineffective. Further research is required to determine the ideal feedback format for items which are more distantly related to (ie. far transfer versions of) original items.

## #100 Short Communications - Feedback

**1004** (1161)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 2.31, Level 2

### Adopting the Concept of Feedback Orientation to Health Professions Education

#### AUTHOR(S):

- James Fraser, Griffith University, Australia (Presenter)
- Christopher Kloppe, Griffith University, Australia
- Michelle Hood, Griffith University, Australia

#### ABSTRACT

**Background:** Feedback is critical for a student to be able to measure their performance against criteria that define success. Feedback may provide one of the most powerful effects on learning, though these effects are highly variable (Hattie & Timperley, 2007). Norcini et al. (2011) referred to the effect of feedback on assessment to 'drive future learning' as 'catalytic'. However feedback often fails to deliver on its goal to positively influence student learning (Boud & Molloy, 2013) and in 40% of instances has been found to result in a deterioration in student performance (Kluger and DeNisi, 1996).

**Summary of Work:** Understanding individual student's approaches and responses to feedback may help educators address one of the factors contributing to variable feedback effects. The concept of feedback orientation, which is defined as 'an individual's overall receptivity to feedback' was described by London and Smither (2002). Feedback orientation is a multidimensional construct and has been demonstrated to be an important contributor to an individual's longitudinal development in the workplace.

**Summary of Results:** Individuals with high feedback orientation were conceived as having control over their emotional response to feedback and abilities to analyse the feedback and apply the feedback to future tasks (Dahling, Chau, & O'Malley, 2012; London & Smither, 2002). High feedback orientation has been identified as a predictor of successful career development, positive outcomes from coaching and higher quality of work outputs (Gregory & Levy, 2012; London & Smither, 2002). London and Smither (2002) stated that feedback orientation is an individual characteristic capable of modification and development and is capable of being changed by external influences in the medium term (Dahling & O'Malley, 2011), suggesting that high feedback orientation can be actively developed.

**Discussion and Conclusions:** This presentation will discuss the concept of feedback orientation and studies in other disciplines and the relevance and application in health professions education.

**Take-home Messages:** What individual factors influence feedback? How do educators perceive these and how do individual student factors influence the provision of effective feedback? Future research plans to assess feedback orientation in a medical student cohort.



## #100 Short Communications - Feedback

1005 (2090)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 2.31, Level 2

### Understanding the enablers, inhibitors and processes around earlier development of feedback-seeking behaviour

#### AUTHOR(S):

- Michelle Arora, School of Clinical Medicine, University of Cambridge, UK (Presenter)
- David Hope, Edinburgh Medical School, UK
- Helen Cameron, Aston Medical School, UK

#### ABSTRACT

**Background:** Feedback is one of the most effective learning interventions but students often feel they receive insufficient useful feedback. However, students who actively seek feedback perceive that feedback to be more valuable, and are more receptive to its message. Since feedback-seeking develops as students become more mature and experienced, we therefore need to consider how to promote the development of feedback-seeking earlier.

**Summary of Work:** This constructive grounded theory study explores the promoters and inhibitors of feedback-seeking in students in a 5-year MBChB programme, and the processes involved in developing skills to seek feedback. Data were collected from 13 student and 11 staff interviews, and questionnaires across the years. Interviews were transcribed and analysed using a constant comparative analysis approach to develop key themes, which reached data saturation.

**Summary of Results:** Feedback-seeking was influenced by intrinsic, extrinsic and feedback factors. Inhibitors included lack of confidence or even fear of approaching staff, fear of patients, ambivalence about the value of feedback and anxiety about negative feedback. As students progressed, they were more likely to feedback-seeking because they developed confidence and successful strategies to approach staff, which overcame fear. Students became familiar with interacting with patients and how to be useful in a team, encouraging feelings of belonging. Such positive experiences increased the predicted value of feedback sought, as did their increasing yearning to be safe, competent doctors, which outweighed their apprehension about receiving negative feedback.

**Discussion and Conclusions:** Understanding what inhibits feedback-seeking helps us support student to develop the skills and motivation to feedback-seeking earlier. We can also break down barriers ourselves. For example, we can describe how to approach clinicians, and reassure them that this is expected. Increasing staff receptivity to students' feedback-seeking, through training to improve confidence and recognition, will increase success.

**Take-home Messages:** We provide insights into the enablers, barriers and processes associated with feedback-seeking and some practical suggestions to enable feedback-seeking amongst students.

## #100 Short Communications - Feedback

1006 (3166)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 2.31, Level 2

### Influencing factors and outcomes of Multisource-Feedback in Postgraduate Medical Training - A Focus Group Study

#### AUTHOR(S):

- Eva K. Hennel, University of Bern, Institute for Medical Education, Switzerland (Presenter)
- Christoph Berendonk, University of Bern, Institute for Medical Education, Switzerland
- Ulrike Subotic, Universitäts-Kinderspital Zürich, Switzerland
- Andrea Trachsel, University of Bern, Institute for Medical Education, Switzerland
- Sören Huwendiek, University of Bern, Institute for Medical Education, Switzerland

#### ABSTRACT

**Background:** Multisource-Feedback (MSF) is a form of workplace-based assessment appropriate for postgraduate training. Here, feedback is given by raters via questionnaires and then summed up by a supervisor in a facilitating conversation, in which learning goals are formulated. While there has been published much on the MSF questionnaire itself, only little is known on the other factors of the MSF process. Thus, our research question is: Which factors influence MSF which aims to improve postgraduate training and what are the expected and unexpected outcomes?

**Summary of Work:** We implemented MSF in the surgical unit of a paediatric university hospital in Switzerland and conducted focus group interviews with participants from all stakeholder groups: trainees, raters, and supervisors. The transcripts of all interviews were analysed using a thematic analysis approach as described by Braun and Clarke [Braun 2006].

**Summary of Results:** We identified the following factors and outcomes: Supporting factors: Clear communication of goal of MSF; self-assessment and narrative comments on the questionnaires to set learning goals; training of raters; continuity and preparation of raters; timing of MSF during rotations; clear role of supervisor; clear structure of the facilitating conversation. Outcomes: Residents perceived that the multiperspective feedback supported the improvement of their professional development; Teamwork and interdisciplinarity were perceived as helpful and were enhanced by MSF; Raters raised their commitment on the training of residents.

**Discussion and Conclusions:** Some of our results confirm other studies, other results have not yet been described in detail such as a helpful structure of the supervision conversation, timing of the MSF assessments during clinical rotations and impact on teamwork and shared responsibility. Further analysis is planned to better understand the relationships between the extracted factors and to derive recommendations on how the potential of MSF can be exploited further.

**Take-home Messages:** When implementing MSF, factors already described in the literature as well as our findings regarding influencing factors and outcomes can be helpful to make best use of it.

## #100 Short Communications - Feedback

1007 (2380)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room 2.31, Level 2

### Resident perspectives on impression management and receiving feedback in residency: a qualitative study

#### AUTHOR(S):

- **Brandon Huffman, Mayo Clinic, USA (Presenter)**
- Fred Hafferty, Mayo Clinic, USA
- Anjali Bhagra, Mayo Clinic, USA
- Emily Leasure, Mayo Clinic, USA
- Adam Sawatsky, Mayo Clinic, USA

#### ABSTRACT

**Background:** Feedback is critical in physician growth; however, it is predominantly based on external observations. Goffman described impression management as the process individuals experience when portraying themselves to those around them. We explored how and why resident physicians manage the impressions of their evaluators when feedback is expected.

**Summary of Work:** We used constructivist grounded theory to examine the role of impression management during the evaluative process in residency. Residents in the Mayo Clinic Internal Medicine Residency participated in hour-long semi-structured interviews from June-August 2018. Interviews were transcribed verbatim and de-identified prior to analysis. Data collection and analysis were conducted simultaneously. We applied open codes, wrote analytic memos and discussed themes. We identified themes and relations between themes regarding impression management, feedback type, and mindset. Using constant comparison, we refined our categorization using Goffman's theory of Impression Management, Heen and Stone's characterization of feedback type (coaching versus evaluation), and Dweck's mindset paradigm (growth versus fixed) to define themes. Theoretical saturation was determined by group consensus. This study was approved by the Mayo Clinic Institutional Review Board.

**Summary of Results:** We conducted 15 interviews; 9 (60%) participants were male. Five participants (33%) were postgraduate year (PGY) 1s, 5 (33%) were PGY2s, and 5 (33%) were PGY3s. Residents identified relationships between context, feedback type, mindset, and impression management. Coaching feedback and growth mindset were related to comfort with making weaknesses and uncertainty visible. Evaluation and fixed mindset were related to discomfort with making weakness and uncertainty visible. Relationship and trust with faculty members facilitated a growth mindset and comfort internalizing feedback, where written evaluation and perceived high stakes consequences drove residents to hide weaknesses and adopt a fixed mindset.

**Discussion and Conclusions:** The context of feedback can affect resident mindsets which may affect their ability to grow as physicians.

**Take-home Messages:** Evaluators should be aware of the context while maximally facilitating a growth mindset as it promotes resident comfort and, ultimately, their development as physicians.

## #10P Short Communications – Mentoring

### 10P1 (1851)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room L1, Level 1

### Understanding Mentoring Culture through Thematic Analysis of Learning Culture in Medicine: a Systematic Scoping Review

#### AUTHOR(S):

- Kuang Teck Tay, Yong Loo Lin School of Medicine, National University of Singapore, Singapore (Presenter)
- Elisha Wan Ying Chia, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
- Annelissa Mien Chew Chin, Medical Library, National University of Singapore Libraries, National University of Singapore, Singapore
- Ann Ying Pin Toh, Department of Family Medicine, National University Health System, Singapore
- Lalit Kumar Radha Krishna, Division of Supportive & Palliative Medicine, National Cancer Centre Singapore, Singapore

#### ABSTRACT

**Background:** Mentoring is core component of medical education. Mentoring's success has been attributed to a nurturing mentoring environment which is composed of the Mentoring Culture (MC) and mentoring structure. Whilst literature abounds on mentoring structure and processes, a lack of data on MCs has necessitated scrutiny of closely related Learning Cultures (LCs) to enhance understanding of MCs to facilitate the development of a positive mentoring environment, contributing to mentorings overall success.

**Summary of Work:** Using Arksey and O'Malley's (2005) approach to scoping review, 4 authors performed literature searches of LCs in medicine published between 1st January 2000 to 19th September 2018 from 10 databases. Based on selection criteria, articles were selected. Open coding and thematic analysis using Braun and Clarke's (2006) approach was adopted to make comparisons of LCs across different settings, diverse mentee and mentor populations, and host organizational characteristics possible.

**Summary of Results:** 11,723 abstracts were identified, 179 full-text articles were reviewed, 110 full-text articles were thematically analysed. The 7 themes identified include descriptions and definitions of LC, key elements of LC, reasons to evaluate LC, approaches to nurture LC, methods to evaluate LC, LC outcomes and challenges to nurturing LC.

**Discussion and Conclusions:** MCs, drawing from key concepts of LCs, consists of complex relationship amongst the mentor, mentee, and host organization (stakeholders) that is influenced by the prevailing curricular structure and context. MCs encapsulate the shared beliefs, attitudes, values, goals, and practices of the stakeholders that influence the mentoring process and relationship. Pivotal to a nurturing MC is the constant alignment of personal expectations and values of stakeholders with the overall goals, practices and ethos of the programme. Designing an accurate, holistic and longitudinal assessment system in tandem with the mentoring process empowers the host organization to nurture and shape MC by providing timely support and oversight of the mentoring process.

**Take-home Messages:** - **Holistic and longitudinal assessment of MC addresses evolving and dynamic needs of mentors and mentees, and empower the host to provide personalized support to them.** - **Alignment of individual expectations and values with overall ethos and goals of programme is crucial to nurturing personalized MCs.**

## #10P Short Communications – Mentoring

### 10P2 (1358)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room L1, Level 1

### Study Phase Specificity of Success Factors of a Longitudinal, Portfolio-Based Mentoring Programme to Foster Medical Students' Professional Development

#### AUTHOR(S):

- Maria Farquharson, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany (Presenter)
- Tanja Mirjam Riess, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany
- Jan Griewatz, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany
- Maria Lammerding-Köppel, Competence Centre for University Teaching in Medicine - Baden-Wuerttemberg, University of Tuebingen, Germany

#### ABSTRACT

**Background:** Reflective portfolios and mentoring can help foster students' professional development systematically and effectively. However, success of such programmes depends on a number of factors. Knowledge of success factors facilitates purposeful development of programmes. Since 2013, a longitudinal, portfolio-based mentoring programme has been an obligatory part of the curriculum at the University of Tuebingen for all students from semesters 1 to 10. Mentors are faculty members, clinicians or scientists working in the medical context. Research question: What are general and study phase-specific success factors of a longitudinal, portfolio-based mentoring programme from mentors' and mentees' perspectives?

**Summary of Work:** Semi-structured interviews were conducted with mentors and mentees (n=6 each). Additionally, free text data from an online survey was collected (n=102 mentors, n=524 mentees). Data was analysed via qualitative content analysis in MAXQDA 2018. One quantitative question from the survey was included to examine phase-specific student needs (n=102 mentors).

**Summary of Results:** Structural, personal, relational and contentual factors were categorised. Most frequently named supportive factors (more than 50% of respondents) include: (1) structural: mentor training, mandatory programme, combination of portfolio and mentoring, longitudinality, mentor exchange on standards; (2) personal (mentors): professional experience, role modelling, self-reflection; (3) personal (mentees): acceptance of programme aims, willingness to participate; (4) relational: trust, motivating behaviour, mentee-focussed, familiarity, openness; (5) contentual: adaptability, openness for further topics, discussion of written reflections. Student needs and thus relevance and hierarchy of factors are study phase-specific. During pre-clinical phase, students require more mentor guidance to establish self-regulated learning and reflective practice (e.g. mandatory participation; written, guided reflection). During clinical phase, career planning and networking are central, requiring e.g. trustful and long-lasting mentoring relationships.

**Discussion and Conclusions:** For targeted programme implementation and development, phase-specific success factors need to be considered. Knowledge and consideration of such factors facilitates further optimisation of our established programme (e.g. targeted, longitudinal mentor trainings) and ensures acceptance among students. Generally, knowledge of phase-specific factors provides a framework for purposeful programme implementation and optimisation.

**Take-home Messages:** Success factors of longitudinal, portfolio-based mentoring programmes can be general or study phase-specific; their consideration supports targeted programme implementation and optimisation.



## #10P Short Communications – Mentoring

### 10P3 (849)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room L1, Level 1

### Development and initial validation of a dual-purpose questionnaire capturing mentors' and mentees' perceptions and expectations of the mentoring process

#### AUTHOR(S):

- Sylvia Heeneman, Maastricht University/ Dept of Pathology, the Netherlands (Presenter)
- Willem de Grave, Maastricht University/ Dept of Educational Development and Research, the Netherlands

#### ABSTRACT

**Background:** In health profession education, learners are often coached by mentors for development of competencies, self-direction of learning and professionalism. It is important that the mentee-mentor relationship is aligned in terms of mutual expectations.

**Summary of Work:** A dual-purpose questionnaire capturing both the mentor and mentee perceptions on the actual and preferred mentoring functions was designed and validated, by performing a principal component analysis (PCA) using the data of mentees (n=103) and mentors (n=23) of a medical course. As a proof of concept, alignment of needs and changes in the mentoring perceptions in mentee groups of different years were determined.

**Summary of Results:** PCA showed that specific sets of questions addressed important elements in the mentoring process, such as self-direction of learning and reflection (Scale 1), guidance of behavioural change (Scale 4), addressing personal issues and professional identity development (Scale 3 and 5) and how the mentor and mentee presents oneself in the mentoring relationship (Scale 2). Mentors and mentees perceived comparable situations as critical for an effective mentoring process, such as mentor presence and guidance of reflection, although there was also evidence of gaps, such as perception of cultural issues. By comparison of the mentee groups in the different years of the program, the dynamic or evolving nature of the mentor process became evident, mentees experienced more emphasis by the mentor on reflection (Scale 1), at a constant level of mentor presence (Scale 2).

**Discussion and Conclusions:** Given the individualized, context-specific, dynamic and organizational-dependent nature of mentoring practices, programs would benefit from a regular evaluation of mentoring practices, in order to facilitate organizational revisions of the mentoring system and further development of the mentoring competencies of individual mentors.

**Take-home Messages:** - **The dual-purpose questionnaire capturing mentors' and mentees' perspectives of the mentoring process can disclose gaps or misalignments in the mentors' and mentees' experiences and expectations, facilitate evaluation of the mentoring system and attune the mentor training program.**

## #10P Short Communications – Mentoring

### 10P4 (3429)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room L1, Level 1

### What makes mentors of medical students thrive and succeed in group-mentoring programs? A multi-centre mixed methods study

#### AUTHOR(S):

- Eirik Hugaas Ofstad, Uit The Arctic University, Norway (Presenter)
- Elise Pauline Skjevik, Uit The Arctic University, Norway
- Unni Ringberg, Uit The Arctic University, Norway
- Monika Kvermenes, University of Bergen, Norway
- Edvin Schei, University of Bergen, Norway

#### ABSTRACT

**Background:** In the last decades, the establishment of group-mentorship programs for undergraduate medical students has become a significant trend, particularly in European and North American medical schools. The aim of our study was to identify factors in which group mentors of medical students thrive and succeed.

**Summary of Work:** We invited 456 mentors at three universities (McGill in Montreal, Canada and the universities of Bergen and Tromsø, Norway) with longitudinal group-mentoring programs to a survey. The response rate was 59% (n=272). From these we, through a convenience-based maximum variation sampling, did in-depth semi-structured interviews with 24 mentors (8 at each site). Interviews were analyzed using systematic text condensation. Associations between findings from the qualitative interviews were cross-checked with quantitative data from the survey.

**Summary of Results:** Mentors, who in qualitative interviews expressed a primarily student-centered approach, reported a high level of satisfaction and well-functioning group sessions. In the qualitative interviews, mentors who reported a low level of satisfaction and fulfillment with mentoring, focused on lack of clarity concerning their function, tasks and contribution to the task of mentoring student groups. The informants who in their interviews revealed a student-centered focus commonly were less experienced and female.

**Discussion and Conclusions:** Several of the informants with high levels of satisfaction said that their lack of experience and loss of control had helped them shift their focus towards the students, and by being curious about the students' perspectives in a sense came to understand the true purpose and reward of group mentoring. Recruiting mentors with high intrinsic motivation is recommended. Lack of experience should not be an exclusion criteria in the recruitment process.

**Take-home Messages:** **Mentors who thrive and succeed in group-mentoring medical students do so because they manage to be student-centered, not mentor-centered. Qualitative interviews add knowledge to and can explain findings not extractable from quantitative survey data.**

## #10P Short Communications – Mentoring

**10P5** (3252)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room L1, Level 1

### An Insight into undergraduate mentoring program

#### AUTHOR(S):

- Mahwish Arooj, University of Lahore, Pakistan (Presenter)

#### ABSTRACT

**Background:** Mentoring involves a long-term relationship where a senior person (mentor) supports and guides a junior person (mentee) during their period of training and education. Mentoring can be beneficial for mentees, mentors and the educational institutes. This study was conducted with an aim to evaluate the effectiveness of the mentoring program which was initiated in University College of Medicine, Pakistan since 2014.

**Summary of Work:** The present study is conducted on first, second and third year students enrolled in the mentoring program at University College of Medicine, Pakistan. The effectiveness of mentoring program was evaluated by Mentorship Effectiveness Scale which was modified according to the local need and validated by expert review. Final questionnaire comprised of 14 items divided in 6 sections; mentor characteristics, professional advice, personnel issues, academic performance, research, attendance and disciplinary issues. Students were asked to mark their response on 5 Likert scale. Data was analysed by using SPSS 16. The perception of students in pre-clinical (1st and 2nd year) and clinical year (3rd year) was also compared.

**Summary of Results:** Out of 450 students, 351(78%) participated in this study. Among them, 81% students feel that mentoring was helpful in improving their academic performance, 80% students are satisfied with their mentors, 79% students feel that mentoring is helpful in providing them career guidance, 72% students feel that mentoring helped them in improving their attendance as well as decreasing the disciplinary referrals. While 70% students are satisfied that the mentoring program provide them with personal support and helped them in research collaboration.

**Discussion and Conclusions:** Mentoring program helped the students in many aspects including academic and career guidance, improved attendance, personal support and research collaboration. Year wise analysis showed that the first year students find mentoring most helpful as compared to 2nd and 3rd year. It may be due the fact that first year students need more support in order to get adjusted in a new and competitive field.

**Take-home Messages:** Formal mentoring program is an effective way to provide the students with an immediate supporting network which can help students to reach their full potential and provide them with a conducive environment.

## #10P Short Communications – Mentoring

### 10P6 (603)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room L1, Level 1

### Mentoring: in the Eyes of the Beholder

#### AUTHOR(S):

- Iman M. Eissa, Kasr Al Aini School of Medicine, Cairo University, Egypt (Presenter)

#### ABSTRACT

**Background:** Having been a student in the same institution in which I currently teach, I often memorize staff who had an impact on my life. What is the exact role of a mentor? Is every educator a mentor by default? How do students describe a mentor? How do educators describe mentorship? I often reflect upon these questions. At our institution, no teacher is formally given mentorship roles. Instead, it is more of a personal initiative. Stemming from a strong belief in the importance of mentorship, this survey was done.

**Summary of Work:** A survey of opinion was asked simultaneously to teachers and students alike, asking them to describe the difference between a mentor and a teacher from their point of view. The same question (with the same wording) was delivered to each person individually through a mobile texting app. Responses came in text, and were collected and compared by the author.

**Summary of Results:** Similarities and differences in points of view will be discussed in the presentation. Of the responses were A teacher has broader knowledge, a mentor has broader perspective, Mentors teach you how to fish, not what a fish is made of, my mentor helps me de-clutter my thoughts. Upon comparing responses, it was noted every one had his very explicit description of a mentor and a teacher. Responses varied more between teachers, than between students.

**Discussion and Conclusions:** Taking this survey made us, teachers, reflect. How far do we stand from mentorship? Do we teachers have a consensus on what the role of a mentor is? Students have a clearer description of a mentor and what they expect from him. This picture when seen from the eyes of educators did not seem to be equally clear.

**Take-home Messages:** **Mentoring in medical education is an established worldwide role that may still be - formally- lacking in our institution. A consensus is needed where the role of a mentor is clear, well explained and made easy to be adopted by staff members. Training can be introduced where teachers are able to exercise mentoring roles and feel the positive impact of it.**



## #10P Short Communications – Mentoring

### 10P7 (722)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room L1, Level 1

### Coaching models - enabling your trainee to kick goals'

#### AUTHOR(S):

- Heather Grusauskas, Eastern Victoria General Practice Training, Australia (Presenter)
- Patrick Kinsella, Eastern Victoria General Practice Training, Australia

#### ABSTRACT

**Background:** Coaching today is more frequently associated with professional sport or business training. In these industries it frequently commends a high dollar value and is linked to elite performance measures. However, its origins stem from an educational concept that was used at Oxford University in the 1830s. It is this concept that interested us as educators when looking for ways of enhancing trainee performance.

**Summary of Work:** As a consequence, we developed a workshop for our supervisors to provide them with the relevant educational theory and a framework that could be utilized with their trainees. It was important that they had a clear understanding of the difference between coaching and mentoring and also the tension supervisors face with being both a coach and an assessor. These immersive workshops gave participants the opportunity to practice their skills utilizing some scripted scenarios. The participants worked in small groups and rotate roles. We requested that participants also worked with someone that they did not know in order to get the maximum value from the session. Additionally, there was the opportunity for individual participants to feedback on their experiences to the larger group - all within a safe learning environment.

**Summary of Results:** The workshops have been highly evaluated by our supervisors. They have prompted further questions around what other coaching models are around? What is the relationship between educational theory and coaching? What is the role of direct observation in coaching? Could these coaching models be used outside of remediation and with our 'high performers'?

**Discussion and Conclusions:** Coaching models are not well used in educational tool boxes. This model gives us a framework to use with our trainees to enhance their performance by focusing on specific tasks or objectives skills as opposed to the more generalized mentoring models that assist with generalized goals or overall development.

**Take-home Messages:** Coaching should be better utilized in educational contexts to enhance performance.



## #10Q Short Communications - Simulation 2

### 10Q1 (1071)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 0.15, Level 0

### A simulation-based educational program to improve 3rd year medical student bag-valve-mask ventilation (BVM) and cardiopulmonary resuscitation (CPR) techniques for EPA #12: Preliminary Results

#### AUTHOR(S):

- **Vaia Abatzis, Department of Anesthesiology, University of Virginia School of Medicine, USA (Presenter)**
- John Kwock, Maine Medical Center, USA
- Jessica Sheeran, Department of Anesthesiology, University of Virginia School of Medicine, USA
- Lisa Morton, Department of Anesthesiology, University of Virginia School of Medicine, USA
- Stephen Eason, University of Virginia School of Medicine, USA
- Keith Littlewood, Department of Anesthesiology, University of Virginia School of Medicine, USA

#### ABSTRACT

**Background:** CPR and BVM are critical life saving techniques all health care professionals, including medical students, need to master. Using Laerdal's SimMan 3G, BVM and CPR effectiveness can be displayed in real time on a monitor and/or recorded for future use. This data, either in real time or reviewed after the learner has practiced BVM or CPR, can result in more effective resuscitation efforts. Does using simulation acquired BVM and CPR data improve BVM and CPR techniques of medical students in preparation for EPA #12?

**Summary of Work:** 3rd year medical students practiced BVM and CPR on SimMan 3G on three separate occasions. On Day 0, baseline BVM and CPR data was collected on every student (no real time feedback). For Day 1 and Day 2, half the students got feedback on Day 1 (Group A) and the other half got feedback on Day 2 (Group B). BVM and CPR data was saved for each student encounter.

**Summary of Results:** Preliminary results from our first 120 medical students is presented here. The non-parametric independent samples Mann-Whitney U test was used to analyze data sets collected from the simulator. For CPR, compression rate/min was statistically significant on day 2 when comparing Group A with Group B ( $p=0.0002$ ). Mean compression depth was statistically significant on day 1, when comparing Group A with Group B ( $p=0.047$ ). In addition, % adequate rate and % adequate depth was statistically significant at all 3 days.

**Discussion and Conclusions:** Simulator feedback improves CPR techniques of 3rd year medical students. Group A students improved with real time simulator feedback on Day 1 and maintained these improvements on Day 2 (when they did not have real time simulator feedback). Group B students also improved on Day 2 when they received real time simulator feedback. A statistically significant improvement was not seen with BVM. The lack of improvement with BVM may be due to students having many opportunities to practice BVM on patients in the OR during their peri-operative clerkship.

**Take-home Messages:** As medical schools are revising curriculums and preparing medical students for the AAMC's EPAs, simulation can be used to prepare students for EPA#12.

## #10Q Short Communications - Simulation 2

### 10Q2 (3226)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 0.15, Level 0

### Warm bodies and plastic patients: Thinking sociomaterially about simulation

#### AUTHOR(S):

- Anna MacLeod, Faculty of Medicine, Dalhousie University, Canada (Presenter)
- Paula Cameron, Dalhousie University, Canada

#### ABSTRACT

**Background:** Perennial challenges have been identified with respect to simulation, including issues of patient-centredness. Despite a history of important work in the area, the existing literature is limited in terms of theoretical explorations. We believe the challenges of simulation are sociomaterial in nature, meaning they are the product of both social relations and material elements. The materials, or tools, of simulation include mannequins, simulated patients, task trainers, and many others. Looking at simulation through a sociomaterial lens helps to shift our focus to explore overlooked elements. Rather than seeing materials as neutral tools that are controlled by people, a sociomaterial approach recognizes that the stuff of simulation is actively shaping medical education, working to support and/or disrupt teaching and learning.

**Summary of Work:** We will describe emerging findings from an ongoing sociomaterial ethnography of simulation at a Canadian university. Our goal was to theorize how the materiality of simulation actively shaped developing professional identities in undergraduate medical students. To date, we have collected: 38 hours of video-observations of interactions with mannequins, task trainers, and simulated patients; 20 photo-elicitation interviews with medical students, educators, and simulated patients; and, 150 photographs. Analysis is ongoing.

**Summary of Results:** We are learning that the materials of simulation are actively shaping emerging professional identity. Simulation tools, particularly mannequins, serve as 'stand-ins' for real patients, but mannequins present problematic pictures of patients as dehumanized, compliant, and uniform. They permit, and perhaps inspire, questionable practices, including minimizing the importance of consent, ignoring appropriate draping, using the patients body as a table or waste bin, and allowing for fiddling with patients bodies.

**Discussion and Conclusions:** Taking a sociomaterial approach helps us to think differently about the tools of simulation. Mannequins, and other materials, are doing what we intended: they provide a safe opportunity for learners to practice clinical skills. However, these materials also do things we did not intend, including facilitating a space to engage in questionable representations of patients, and problematic patient-physician interactions.

**Take-home Messages:** Sociomateriality provides a lens to think critically about some of the under-explored elements of simulation. Further research should be conducted on the ways mannequins shape physician identities, including attitudes and practices regarding patient centredness.

## #10Q Short Communications - Simulation 2

**10Q3** (699)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 0.15, Level 0

### Using Learning Curves to Identify and Explain Growth Patterns of Learners in Bronchoscopy Simulation: A Mixed Method Study

#### AUTHOR(S):

- Briseida Mema, Hospital for Sick Children, Canada (Presenter)
- Yoon Soo Park, University of Illinois at Chicago, USA
- Maria Mylopoulos, Wilson Center, Canada

#### ABSTRACT

**Background:** Learning curves show how trainees acquire a skill and what the path to competence looks like. The aim of this study was to describe and explain the growth trajectories of novice trainees while practicing on a Bronchoscopy Virtual Reality (VR) simulator.

**Summary of Work:** This was a sequential explanatory mixed methods design. In 2018, 20 Pediatric Subspecialty trainees and eight faculty practiced with the VR simulator. We looked at relationship between number of repetitions and VR outcomes and patterns of growth using a growth mixture modeling. Using a qualitative instrumental case study method we collected field notes and conducted semi-structured interviews with trainees and simulation instructor to explain the patterns of growth. We used a constant comparative approach to identify themes iteratively. Team analysis continued until a stable thematic structure was developed and applied to the entire data.

**Summary of Results:** Using a growth mixture modeling we statistically identified and then explained two patterns of growth. A slower growth included learners that had: inherent difficulty with the skill, did not integrate the knowledge of anatomy in simulation practice and used the simulator for simple repetitive practice with no strategy for improvement in between trials. The faster growth included learners that used an adaptive expertise approach: integrating knowledge of anatomy, finding flexible solutions and created a deeper conceptual understanding.

**Discussion and Conclusions:** We provide validity evidence for use of growth models in education and explain patterns of growth such as a 'slow growth' with a mechanistic repetitive practice and a 'fast growth' with adaptive expertise.

**Take-home Messages:** Predictive analytics while useful should be used carefully in medical education and coupled with teachers and supervisors reflection about the progress of learners. The faster growing learners not only have an inherent ease at the task but show an adaptive approach to learning by using struggle, embracing variation and forming deeper understanding. These should be encouraged in all learners.

## #10Q Short Communications - Simulation 2

### 10Q4 (2534)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 0.15, Level 0

### Acute scenarios simulation for Foundation Doctors: does it work?

#### AUTHOR(S):

- Philip Jones, South Tyneside District Hospital, UK (Presenter)
- Lucy Baxter, South Tyneside District Hospital, UK

#### ABSTRACT

**Background:** Many junior doctors feel poorly prepared for emergency situations. This study examined the role of simulation as a tool to increase Foundation doctor confidence in acute scenarios. It also evaluated whether Foundation doctors found the course useful, learned from it and consequentially changed their practice.

**Summary of Work:** 21 F1 doctors and 25 F2 doctors attended a half day simulation session on acute and common scenarios. Foundation doctors attended each session in groups of 3-4. Each participant completed a specifically designed scenario of 15 minutes length while the others observed, and they all participated in debriefing each scenario. The scenarios were based around an ABCDE assessment, or acute mental health assessment, with appropriate escalation and handover to a senior. They were all mapped to the Foundation Programme curriculum. A pre- and post- simulation questionnaire was used to assess trainee confidence over several areas: overall confidence, airway, breathing, circulation, disability, exposure, mental health, handover and prescribing. Likert scale was used for each response.

**Summary of Results:** F1 doctors' average confidence across all areas was 48% pre-simulation and 61% post-simulation, equating to a mean proportional increase from baseline of 27%. F2 doctor's pre-simulation confidence was overall 53% which rose to 63% post-simulation, with a mean proportional increase of 20%. For both cohorts there was increased confidence in all areas assessed. Usefulness of session was rated at 99% and likeliness to change practice at 95%.

**Discussion and Conclusions:** A post simulation survey was sent 1-6 months post session to all attendees. This survey is currently still open but responses so far (n=8) report 75% have made changes to practice and 12.5% have not yet but intend to. Examples of changes reported include increased confidence in speaking up in emergencies, improved handover, keeping an open differential, and tackling a problem systematically using ABCDE assessment.

**Take-home Messages:** Simulation has led to an increased level of confidence, learning and subsequent changes to practice amongst junior doctors across all areas assessed. It is hoped that these changes to practice will ultimately result in improved patient care. Moving forward we aim to ensure this is maintained by working to integrate simulation into Foundation Teaching throughout their training.

## #10Q Short Communications - Simulation 2

**10Q5** (2434)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 0.15, Level 0

### Multidisciplinary simulation training: emotions before and after training

#### AUTHOR(S):

- Outi Äyräs, Helsinki University Hospital, Finland (Presenter)
- Marja Kaijomaa, Helsinki University Hospital, Finland

#### ABSTRACT

**Background:** Weekly sessions of multidisciplinary simulation training are routinely held in the Helsinki University hospital Obstetric Department. Safe learning environment and a good atmosphere are essential for their

**Summary of Work:** We performed an empirical study by the questionnaire method to chart participants' emotions before and after simulation training. The variables under scrutiny were professional groups and working experience, and our goal was to detect whether emotions varied in respect to them. Each participant filled in a questionnaire and chose from the options one or more that best described their own experience. The options before training were: excitement, fear, tension, and neutral; and after: excitement, relief, shame, joy, neutral, and other.

**Summary of Results:** In 2018, these simulation training sessions had 219 participants: of them 125 (57%) were midwives, 78 (36%) doctors, and 16 (7%) midwifery students. The strongest emotion before the simulation was tension (35%) and excitement (32%) followed by neutral feeling (25%); only 2% felt fear. After simulation the strongest emotion was excitement (67%) followed by joy (34%), and relief (19%); neutral feeling was reported by 9% and shame by 2%. When studied according to the professional groups midwives felt more tension before the training compared to doctors ( $p = 0,001$ ) and had less neutral feelings ( $p = 0,02$ ). In both groups, only few participants felt negative emotions after the session. Working experience had no effect neither before nor after training.

**Discussion and Conclusions:** The results indicate that the professional groups experienced different emotions before multidisciplinary simulation training sessions. Midwives felt more negative feelings before the training compared to doctors. One of the most important tasks of the facilitators is to create a positive atmosphere both before and after simulation training. Midwives might need encouragement before training more than doctors.

**Take-home Messages:** The emotions between professions proved different before simulation training sessions, with midwives feeling more tension than doctors. Facilitators should be aware of this difference as they should make all participants feel comfortable in these sessions.



## #10Q Short Communications - Simulation 2

### 10Q6 (967)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room 0.15, Level 0

### Simulation Design Matters: Improving Obstetrics Training Outcomes

#### AUTHOR(S):

- **Brena Melo, FPS - Faculdade Pernambucana de Saúde; IMIP - Instituto de Medicina Integral Prof. Fernando Figueira, Brazil (Presenter)**
- Jeroen Van Merriënboer, SHE - School of Health Professions Education; Maastricht University, the Netherlands
- Cees Van der Vleuten, SHE - School of Health Professions Education; Maastricht University, the Netherlands
- Ana Falbo, FPS-Faculdade Pernambucana de Saúde & IMIP - Instituto de Medicina Integral Prof. Fernando Figueira, Brazil
- Arno Muijtjens, SHE - School of Health Professions Education, Maastricht University, the Netherlands
- Jette Soerensen, Juliane Marie Centre for Children, Women and Reproduction, University of Copenhagen, Denmark

#### ABSTRACT

**Background:** Healthcare simulation has spread worldwide, leading to a demand for evidence on its optimal training effectiveness. The use of instructional design (ID) guidelines is, therefore, recommended. ID guidelines for task-centered learning derive from sound learning theories and aim at complex learning “the integration of knowledge, skills and attitudes - and transfer of learning - applying what was learned in the workplace. Postpartum hemorrhage (PPH) is the world leading cause of maternal mortality with simulation training being often recommended. We aimed to explore the use of ID guidelines for PPH simulation training effectiveness.

**Summary of Work:** Four studies were conducted. First, we analyzed the current use of ID guidelines in PPH simulation trainings described in the literature. Second, we compared learning outcomes of two different PPH simulation training formats: one based on ID guidelines and the other on current best practices. A posttest-minus-pretest comparison of the number and timing of execution of tasks by the attending residents was conducted. Third, long-term transfer of learning was analyzed through semi-structured interviews with residents from both training formats. Fourth, the outcomes of patients with PPH were compared before and after the ID based PPH simulation training was provided at a teaching hospital maternity.

**Summary of Results:** We found an overall low level of adherence to ID guidelines in PPH simulation trainings described in the literature. In the learning outcomes study, residents who attended the ID based training executed, at posttest, a greater proportion of tasks, faster. The self-perceived long-term transfer of learning was better described by the residents who attended the ID based PPH simulation training. In the patient outcomes comparison, after the training, an increase in the therapeutic oxytocin mean dosage was identified, in fewer and selected patients.

**Discussion and Conclusions:** The findings from our four studies support the current recommendation of adopting ID guidelines for simulation training, especially when aiming at complex learning and transfer of learning.

**Take-home Messages:** The use of ID guidelines for PPH simulation leads to training effectiveness in terms of learning, transfer, and patient outcomes.

## #10R Short Communications - Postgraduate Assessment

### 10R1 (753)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 0.16, Level 0

### Predicting Board Certification Examination Scores using Milestone Ratings in a Longitudinal Dataset

#### AUTHOR(S):

- Kenji Yamazaki, Accreditation Council for Graduate Medical Education, USA (Presenter)
- Gerard Francisco, University of Texas at Houston McGovern Medical School, USA
- Mikaela Raddatz, American Board of Physical Medicine and Rehabilitation, USA
- Larry Robinson, University of Toronto, Canada
- Stanley Hamstra, Accreditation Council for Graduate Medical Education, USA
- Eric Holmboe, Accreditation Council for Graduate Medical Education, USA

#### ABSTRACT

**Background:** A positive correlation of high-stakes certification examination (CE) with medical knowledge (MK) milestones may provide validity evidence for the milestone approach to assessment. Similarly, weaker associations between non-MK milestones and CE would indicate discriminant validity for milestones assessment. This study determined whether (a) an MK subcompetency judgment in physical medicine and rehabilitation (PMR) correlated with CE scores and (b) if non-MK subcompetencies were related less strongly to the same CE.

**Summary of Work:** We examined longitudinal national milestones data for 207 residents (88.8% of residents eligible for the CE) (2014-16 cohort). They received four milestone assessments by graduation in June 2016. They subsequently took the Part I CE of the American Board of PMR in 2016 or 2017; this exam has item reliability of 0.99 and tests a single MK construct. At each milestone review occasion, Part 1 scaled score (200-800 points) was regressed on each subcompetency (levels 0-5) using a Generalized Estimating Equation model to account for nesting within program. Bonferroni corrections were used to adjust for 19 subcompetency comparisons.

**Summary of Results:** The MK subcompetency was positively correlated with Part I for all four milestone review occasions (all p-values < 0.003). The MK subcompetency regression slopes indicated a one-level difference in milestone rating equated to 38-to-60-point differences on Part I score performance. One practice-based learning and improvement (self-directed learning and teaching) and two patient care subcompetencies (history, diagnostic evaluation) were less strongly correlated with the Part I score over three different occasions. The remaining 15 subcompetencies were not statistically significantly related to Part I at any review occasion.

**Discussion and Conclusions:** The PMR MK subcompetency demonstrated consistent and educationally meaningful association with another valid knowledge assessment measure. Weaker correlations (three subcompetencies) or non-significant correlations (15 subcompetencies) among the non-MK competencies support discriminant validity for the PMR milestones assessment.

**Take-home Messages:** This study provides validity evidence for the PMR MK Milestone assessment. This finding may be helpful in identifying struggling residents and help programs to intervene early with struggling residents. It also appears that the other milestone assessments are targeting competencies other than medical knowledge.

## #10R Short Communications - Postgraduate Assessment

### 10R2 (1222)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 0.16, Level 0

### Trainee mistrust of the E-portfolio & Workplace Based Assessment Process

#### AUTHOR(S):

- **Andrew Tomkins, Edge Hill University, UK (Presenter)**
- Mumtaz Patel, Health Education England, UK
- Cathy Sherratt, Edge Hill University, UK

#### ABSTRACT

**Background:** Electronic-portfolios (ePortfolios) have played a significant role in postgraduate medical training in the United Kingdom for many years, having been designed to facilitate and support lifelong learning. The ePortfolio's use is multifaceted in supporting development - they are used both formatively and summatively in the assessment process, support the quality assurance process and promote self-reflection in order to enhance future performance. A recent high profile medical negligence case in the United Kingdom created uncertainty in the medical community regarding the security of recorded information on the ePortfolio and prompted the development of a Reflective Practice Toolkit (Academy of Medical Royal Colleges & COPMED, 2018). Trainees' trust in the ePortfolio process are yet to be established.

**Summary of Work:** As part of a study into trainees' perceptions of workplace based assessments, higher specialty trainees (n=14) attended two focus groups to discuss their perceptions of the ePortfolio process. Grounded theory methods were applied.

**Summary of Results:** Participants reported a general heightened mistrust of the assessment process. Key themes were identified: - Concerns regarding permanency of ePortfolio documentation and potential negative implication on their own, and other trainees' training progression. These concerns impaired the provision of honest feedback in trainees' roles as assessors for other colleagues. - Assessment process mistrust. Experiences of confidentiality breaches and the negative implications this can create on working relationships when completing seemingly anonymised assessments for other colleagues - Self-editing of documentation to ensure only positive comments are captured on the ePortfolio

**Discussion and Conclusions:** Trainees identify a number of factors that impair their trust of the ePortfolio process. Suggestions for improvement include the introduction of clearer guidelines and processes.

**Take-home Messages:** - Several factors appear to impact trainees' trust of the ePortfolio process including concerns regarding the anonymity of certain assessments (assessment process mistrust) and negative repercussions of the permanent recording of suboptimal performance; - Improved guidance and processes may help maximise the ePortfolio use in supporting lifelong learning and development.

## #10R Short Communications - Postgraduate Assessment

### 10R3 (1991)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 0.16, Level 0

### Competency assessment of postgraduate year 1: a preliminary report for implementing national-level graduate competency assessment

#### AUTHOR(S):

- Kanokwan Sriruksa, Khon Kaen Medical Education Center, Thailand (Presenter)

#### ABSTRACT

**Background:** Competency of newly graduate doctor may be insufficient for independent practice. Over 40 years, a one-year internship is compulsory for all Thai medical graduates. However, their competencies had been assessed only once by global rating. The objective of the study was to report a preliminary analysis of graduate competency assessment.

**Summary of Work:** Three assessment tools were selected including case-based discussion (CbD), mini-CEX and direct observation of procedural skill (DOPS). These tools cover 4 areas of competency: critical thinking, problem-solving, communication skill and procedural skill. All new graduate doctors training in a tertiary care hospital were assessed by attending physicians during their internship. One year internship included 9 months rotating in the tertiary care hospital and 3 months in a community hospital. The data was collected for 2 years from 2017 to 2018.

**Summary of Results:** One hundred and twenty-two interns were assessed 268 times while rotating in Medicine, Pediatrics, Surgery, and Obstetrics-Gynecology Departments. These assessments included 109 CbD (41%), 80 mini-CEX (30%) and 79 DOPS (29%). Their global rating competencies were met expectations and beyond 100%, 98%, and 96% using CbD, mini-CEX, and DOPS respectively. The competency in critical thinking, problem-solving, and communication skill were met expectations and beyond (98%). The most frequent assessed procedural skill was lumbar puncture and ultrasound. The competency in procedural skill was also met expectations and beyond (96%). However, their dexterity in performing manual skill needed some improvement.

**Discussion and Conclusions:** This was the first attempt to systematically assessed medical graduate competency during their internship in Thailand. These assessment tools had advantages over the previous global rating including more detailed and more specific competencies were being assessed, easily identified training needs and more specific feedback can be done by assessors. In conclusion, overall competencies in critical thinking, problem-solving, communication skills and procedural skills of the interns have met expectations, although more training was needed to master their procedural skills.

**Take-home Messages:** This assessment should be implemented at the national level to ensure that new graduate doctors are properly trained and assessed during their internship.

## #10R Short Communications - Postgraduate Assessment

### 10R4 (1046)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 0.16, Level 0

### Enforcing a completion of basic checklists for different level learners: exploring the unplanned outcomes

#### AUTHOR(S):

- Luciana Rodriguez Guerineau, The Hospital for Sick Children, Canada (Presenter)
- Jason Macartney, The Hospital for Sick Children, Canada
- Briseida Mema, The Hospital for Sick Children, Canada

#### ABSTRACT

**Background:** The designing of a curricula should be based on the needs of the learners. It is not uncommon for programs to adopt a 'one size fits all approach' for pragmatic reasons, despite having learners with varying degree of knowledge and needs. In a program where a standardized approach of completing a series of checklists to ensure basic competence was achieved by everyone, we examined the unplanned outcomes of this approach.

**Summary of Work:** The basic competences in respiratory care were assessed in 26 trainees with varying degree of expertise (0 to 5 years) by a number of standardized checklists. Respiratory therapists (RT) were in charge of the assessment. Upon completion of this program, all trainees were interviewed to explore the usefulness of participating in these series of assessment to prove competence.

**Summary of Results:** Least experienced learners felt safe to complete the assessments since they were not 'singled out' as the only ones who needed to prove basic knowledge. Most experienced learners, when forced to participate, found 'work arounds' to make the activity useful to them. They use the encounter as an opportunity to learn about the RT role, the culture of the place and the roles and responsibilities of each other. The assessment was seen as irrelevant and filled out to simply complete the mandatory requirement. For all, the mandatory checklist acted as an introduction to each other and improved inter-professional relations.

**Discussion and Conclusions:** The same learning activity resulted in different outcomes with different learners. The learners can modify the activity to adjust to their needs. Being able to capture this process, not only informed the program of the unplanned outcomes but also of the unperceived learners needs. While less experienced trainees followed the mandatory path, the more experienced trainees modified the activity to benefit their needs.

**Take-home Messages:** Mandatory assessments enforce encounters amongst teachers and learners. Both adapt to these encounters and transform them to benefit their own contexts. These findings might be useful in a CBME era when there is doubt about the usefulness of mandatory assessments.



## #10R Short Communications - Postgraduate Assessment

### 10R5 (2151)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 0.16, Level 0

### Using electronic health record data to assess trainees' independent and interdependent performance: A prototype trainee report card in Emergency Medicine

#### AUTHOR(S):

- Lorelei Lingard, Western University, Canada (Presenter)
- Stefanie Sebok-Syer, Stanford University, USA
- Lisa Shepherd, Western University, Canada
- Adam Dukelow, London Health Sciences Centre, Canada
- Rachael Pack, Western University, Canada
- Allison McConnell, Western University, Canada

#### ABSTRACT

**Background:** Competency-based medical education (CBME) requires that trainees receive timely assessments and effective feedback about their clinical performance. While data from the electronic health record (EHR) hold promise for assessment in the clinical workplace, few examples exist of how to create EHR-based assessment tools. A number of complications have been identified, including the ability to attribute EHR data points to individuals in a collaborative work environment where trainees work under supervision. In this study, we partnered with a single clinical division (Emergency Medicine, EM) and hospital decision-support staff with the goal of creating a trainee report card that captures relevant EHR data and represents both independent and interdependent clinical performances in a training context.

**Summary of Work:** Individual semi-structured interviews were conducted with 10 faculty and 11 trainees across postgraduate years. Participants were presented with the current list of EM faculty performance indicators and asked to comment on how valuable each would be in assessing trainee performance, and the extent to which each indicator captured independent or interdependent performance. Based on interview results, and in collaboration with hospital decision support, a prototype trainee report card of clinical performance indicators was created for a senior EM trainee. Faculty and trainee interviews to explore the face validity of the prototype report card are underway.

**Summary of Results:** Participants refined and eliminated faculty performance indicators and created new indicators specific to trainees. We present our catalogue of clinical performance indicators from the EHR database at the study site, organized on a spectrum of independent and interdependent EM trainee performance. For instance, independent indicators include number of patients seen and interdependent indicators include length of stay.

**Discussion and Conclusions:** Our findings document a process for developing trainee report cards that incorporates the perspectives of clinical faculty and trainees. This work has important implications for capturing trainees' contributions to clinical performances, by distinguishing between independent and interdependent indicators in this collaborative work setting.

**Take-home Messages:** Using a multi-stage, collaborative process combining empirical research and tool development, it is possible to create a prototype trainee report card that meaningfully represents independent and interdependent performance of EM trainees.

## #10R Short Communications - Postgraduate Assessment

### 10R6 (1864)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 0.16, Level 0

### Inter-professional assessment of junior doctors

#### AUTHOR(S):

- Charlotte Green, Aarhus University Hospital, Denmark (Presenter)
- Jeppe Glenting, Aarhus University Hospital, Denmark
- Lene Aagaard, Aarhus University Hospital, Denmark
- Rikke Moustén, Aarhus University Hospital, Denmark
- Mads Ingeman, Aarhus University Hospital, Denmark

#### ABSTRACT

**Background:** Inter-professional teamwork is widespread at the Emergency department at Aarhus University Hospital. Acute admissions are managed in a teamwork consisting of both doctors and nurses. Often, a junior resident and a nurse are the primary care providers in the admission of stable patients. Patient admission conducted by junior doctors are regularly supervised and assessed with seven questions according to a national assessment form. We hypothesize that nurses have the ability to assess junior doctors and thereby contribute to strengthen the inter-professional teamwork and support the development of an inter-professional culture.

**Summary of Work:** A pilot project showed that a nurse and a doctor assessed doctors similarly when using the assessment form. In our study, eight junior doctors were assessed by a nurse or a senior doctor multiple times using the form. We performed focusgroup interviews with the junior doctors and nurses after the assessment. The groups were asked to identify promoting and obstructing factors in the assessment. The interviews were then analyzed using a phenomenological hermeneutic approach.

**Summary of Results:** The study showed that nurses had more emphasis on and appreciated the opportunity to give systematic feedback on communication and teamwork skills. The nurses, however, found it difficult to assess medical expert domains. The junior doctors appreciated feedback on communicative skills, and felt that the assessment contributed positively to their inter-professional development. The use of the assessment form eliminated some of the obstacles experienced by nurses in the feedback process.

**Discussion and Conclusions:** Systematic feedback supports inter-professional communication and teamwork. Systematic assessment supports the common goal of teamwork and enlightens the focus on junior doctors communication skills and teamwork.

**Take-home Messages:** Systematic inter-professional feedback to junior doctors by nurses, improves teamwork and supports inter-professional development.

## #10R Short Communications - Postgraduate Assessment

### 10R7 (1356)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room 0.16, Level 0

### A comparison of formative and summative assessment methods in Qatar's FM Residency Program: A retrospective study to evaluate the impact on residents' performance, career satisfaction & teaching involvement

#### AUTHOR(S):

- Youssef Nauf, Primary Health Care Corporation (PHCC), Qatar (Presenter)
- Muna Aseel, Primary Health Care Corporation (PHCC), Qatar
- Mohamed Hashim, Primary Health Care Corporation (PHCC), Qatar

#### ABSTRACT

**Background:** Summative Assessment (SA) is used as a tool to measure the achievement of preset learning's objectives while Formative Assessment (FA) is used to provide a more structured and continuous feedback. The Family Medicine Residency Training Program in Qatar, after obtaining accreditation from Accreditation Council for Graduate Medical Education-International (ACGME-I) in 2013, replaced the method of evaluating residents from SA to FA which is based on the six ACGME-I competencies.

**Summary of Work:** Data was collected using both quantitative and qualitative methods for all residents who completed the third and fourth year of residency in 2012 and 2013 (pre- ACGME-I accreditation group PGY3-G1/PGY4-G1) and 2015 and 2016 (post- ACGME-I accreditation group PGY3-G2/PGY4-G2). Quantitative data was collected from residents' performance portfolios. This included scores from in-training-exams, departmental MCQs and OSCE. Qualitative data was collected by administering a survey and conducted interviews to determine residents' outcomes. The collected data for both groups was analyzed to determine the residents' performance, careers-satisfaction and teaching-involvement.

**Summary of Results:** A-Residents' Portfolio Results:-

1-In-training Mean-Score;

PGY3-G1-(2012)=317.8(MIAS=476)///PGY3-G2-(2015)=478(MIAS=460)

PGY4-G1-(2013)=420(MIAS=454)///PGY4-G2-(2016)=525(MIAS=456)

2-MCQs Mean-Score;

PGY3-G1-(2012)=60///PGY3-G2-(2015)=65

3-OSCE Mean-Score;

PGY4-G1-(2013)68///PGY4-G2-(2016)79

B-Residents' Survey and Interview Results:-

1-Career-Satisfaction;

PGY4-G1-(2012)=77%///PGY4-G2-(2016)=100%

2-Teaching-Involvement;

PGY4-G1-(2012)=0%///PGY4-G2-(2016)=60%

Key:-

PGY=Post Graduate Year

G1=Group1(one-year Pre-accreditation and one-year Post-accreditation): PGY3-G1/PGY4-G1

G2=Group2-(Post-accreditation): PGY3-G2/PGY4-G2

MIAS=Mean International Average Score for American Board of Family Medicine In-training Exam

MCQs=Multiple Choice Questions

OSCE=Objective Structured Clinical Examinations

**Discussion and Conclusions:** Above in-training exams' international average passing score of the G2 was so obvious in both years explaining the influence-power of the FA which was also very clear within the G1 (pre and post) implementation (transitional-period) despite its below average international scores in both years.

Improvement in performance-scores as well as career-satisfaction levels and involvement in teaching in G2 compared to G1 suggests implementation of ACGME-I CBFA that helps in improving residents' learning-process including behavior and ways of thinking. This will definitely lead to more comprehensive and well-structured residents training program that can be the benchmark for the recently introduced Milestone Competency-Based Assessment-system (MSCBA).

**Take-home Messages:** It is highly recommended to continue using ACGME-I CBFA that is associated with more competent and career-satisfied graduates who are interested in teaching. MSCBA is the new challenge for future implementation.



## #10S Short Communications - Teaching and Learning 3

### 10S1 (1772)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0830-0845

**Location of Presentation:** Room 0.51, Level 0

### Impact of Drama-based Educational Programme, Diabetes Theatre, on Healthcare Professionals' Attitudes toward Patient Centred Care

#### AUTHOR(S):

- Kentaro Okazaki, Nagoya University Graduate School of Medicine, Dept of Education for Community-Oriented Medicine, Japan (Presenter)
- Noriyuki Takahashi, Nagoya University Graduate School of Medicine, Dept of Education for Community-Oriented Medicine, Japan
- Mina Suematsu, Nagoya University Graduate School of Medicine, Dept of Education for Community-Oriented Medicine, Japan

#### ABSTRACT

**Background:** Patient empowerment is crucial in diabetes care. However, it is still unclear for healthcare professionals (HCPs) how to learn this concept. We developed a drama-based educational workshop for HCPs, Diabetes Theatre (DT) to learn the philosophy of empowerment, a patient-centred approach. They reflect on their own practice by watching the play based on common problems of misunderstanding between a patient and healthcare professionals (HCP) in a clinical practice, and joining the discussion by focusing the good points and improvements of the practice in the drama. The study aimed to investigate the effect of DT on participants' attitudes toward patient centred care.

**Summary of Work:** Participants in DT at the annual scientific meeting of Japan Diabetes Society in 2015 were requested to answer a questionnaire before and after the program. During the workshop, participants reflect on their practice by watching a play about common misunderstandings between patients and HCPs in a clinical practice, and discussing points to improve the practice in the drama. Attitudes for patient centred care were evaluated by 4 items of 11-point Likert scale from the Diabetes Attitude Scale. Answers for open-ended questions were analysed qualitatively.

**Summary of Results:** We analysed data from 131 respondents; nurses 54%; dietitians 16%; doctors 11%; pharmacists 11%; and others 8%. HCPs' attitude scores increased significantly in each item (all  $p < 0.05$ ). In detail, 'HCPs should be trained how to communicate with their patients' (from 8.1 to 9.1); 'HCPs should learn counselling skills' (from 8.0 to 9.2); 'HCPs should learn how to set goals with patients' (from 8.5 to 9.4); 'people with diabetes have the right not to take good care of their diabetes' (from 6.2 to 7.4). Qualitative analysis revealed participants learned 1) HCPs should wait the time when patients decided to start self-management, 2) Two-way communication between patients and HCPs is important.

**Discussion and Conclusions:** HCPs put more importance on training relating elements of patient empowerment, such as communication, counselling, and collaboration with patients. DT could be useful to improve the attitudes of HCPs toward patient centred care.

**Take-home Messages:** Drama-based programme helps HCPs to learn how to encourage patients with diabetes to manage their problem by themselves.



## #10S Short Communications - Teaching and Learning 3

### 10S2 (2715)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0845-0900

**Location of Presentation:** Room 0.51, Level 0

### Comparing reflection-in-learning level of first and last clinical year medical students in a private sector medical college of Pakistan

#### AUTHOR(S):

- Musarrat ul Hasnain Shah, Rashid Latif Medical College, Lahore, Pakistan (Presenter)
- Sumera Badar Ehsan, Faisalabad Medical University, Pakistan
- Tanzeela Khalid, University Medical and Dental College, Pakistan

#### ABSTRACT

**Background:** Completing all of the requirements together with all of the learning to graduate from a medical school is a complex process that is influenced by multiple factors. Empirical research has been helpful in identifying and clarifying these factors and reflection in learning has been given consistent emphasis in the literature. The concept was defined with clarity by John Dewey describing the relationship between learning and reflection. The work of Kolb and many other researchers have also reaffirmed this relationship; however measurement of reflection in learning and its progress of studentship during the clinical years has not been studied in various contexts. The objective of this study was to compare the level of reflection of third year (first clinical year) and fifth year (last clinical year) medical students in a private medical college.

**Summary of Work:** Study Design: Observational (Analytical) Participants included all students of third and fifth year in Rashid Latif Medical College, Lahore, Pakistan. After IRB approval a validated questionnaire 'Reflection in Learning Scale' with 14 questions responded over 7 point scale was distributed in the respective classes and collected after filling by the students. Data were analyzed using SPSS version 20 and an independent t test was used to compare both groups.

**Summary of Results:** Participants ranged in age from 21 to 24 years. The mean perception score of 3rd year MBBS students was  $62.67 \pm 15.74$  and 5th year MBBS was  $62.04 \pm 14.11$ . The perception score of 3rd year was higher than 5th year but the difference was not statically significant ( $p = 0.824$ ).

**Discussion and Conclusions:** In order to develop deep learning, reflection plays a very important role. The lack of observable increase in the level of reflection in our study may be attributed to non-effective pedagogy including teachers' lack of impact on reflective thinking among students. This factor along with educational learning environment needs further exploration.

**Take-home Messages:** Faculty development initiatives should include teaching of reflection in learning as an integral part.

## #10S Short Communications - Teaching and Learning 3

### 10S3 (1235)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0900-0915

**Location of Presentation:** Room 0.51, Level 0

### The continuum of reflection on professional development: the Amsterdam VUmc reflection-line

#### AUTHOR(S):

- **Veronica Selleger, Amsterdam UMC, Location VUmc, the Netherlands (Presenter)**
- Albert Wenisch, Amsterdam UMC, Location VUmc, the Netherlands
- José van de Kreeke, Amsterdam UMC, Location VUmc, the Netherlands

#### ABSTRACT

**Background:** Reflection is crucial for the professional development of medical students and doctors. At the introduction of the 'VUmc-compas 2005', an 8th role, 'the Reflector', was added to the CanMEDS framework (Whitehead et al., 2014). This VUmc reflector-role was implemented as a series of reflection classes, running through the bachelor and master curriculum, with some extensions into the residents' programme. Over the last fourteen years this reflection-line has been refined and additions were implemented.

**Summary of Work:** From the very start, the first principle was: reflection classes should be scheduled 'just in time', when students go through important professional developments, e.g. their first dissection class or internships. Secondly, reflection classes should be 'safe spaces': small groups in which participants feel free to share or not to share experiences or emotions and where students are not assessed on the content of what they confide to their peers. (Assessment of reflection skills takes place elsewhere, e.g. based on portfolio's.) Thirdly, reflection classes are coached by experienced, flexible, psychologists or physicians, preferably the same coach per group.

**Summary of Results:** Evaluations of bachelor reflection classes over the years have been sufficient to good, with means ranging from 3.0 (rarely) up to 4.3 (1-5 Likert-scale). In 2015-2016 the master groups were graded 3.7-4.0. In 2015, 93% of the surveyed master-3 clerks (N=158) considered these classes relevant and/or interesting. Based on mostly qualitative evaluations, adaptations were implemented over the years. Amongst others, coaches were trained to use innovative, artistic, reflection tools, bachelor group sizes were reduced, and resident reflection groups were introduced. The 2017 Dutch visitation report defines the reflector-role as 'a valuable addition to the seven CanMEDS-roles, that is also beautifully embedded in the VU-wide vision on education'.

**Discussion and Conclusions:** Reflection education should be tailor-made, focused on each student's professional development. This asks for a safe, small group, coached by an experienced teacher who can adapt to unexpected, often emotionally charged, student experiences, and who will recognize a student at risk.

**Take-home Messages:** Reflection in small, continuous groups, provides the possibility for flexible, personalised education. By creating 'safe spaces' for reflection, educators can enhance students' and residents' personal professional development.

## #10S Short Communications - Teaching and Learning 3

### 10S4 (1296)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0915-0930

**Location of Presentation:** Room 0.51, Level 0

### Is it about getting interested? Exploring how deliberate reflection might help medical students learn from clinical cases

#### AUTHOR(S):

- **Ligia Ribeiro, UNIFENAS, Brazil (Presenter)**
- Silvia Mamede, Institute of Medical Education Research Rotterdam, the Netherlands
- Eliza de Brito, UNIFENAS, Brazil
- Alexandre Moura, UNIFENAS, Brazil
- Rosa de Faria, UFMG, Brazil
- Henk Schmidt, Institute of Medical Education Research Rotterdam, the Netherlands

#### ABSTRACT

**Background:** Recent empirical studies(1) support the notion that reflection can help students learn from clinical practice(2), but additional evidence and a better understanding of the mechanisms underlying the potential positive effect of reflection on learning are still lacking. This study aims at filling this gap.

**Summary of Work:** A three-task experiment (diagnostic-task, learning-task, test) is being conducted with fifth-year students from UFMG Medical School, Brazil. Diagnostic-task: participants are randomly assigned to diagnose two clinical cases (diseases associated with jaundice) either by following a deliberate-reflection procedure of comparing/contrasting patient's findings to alternative diagnoses(3) (experimental group) or by making differential diagnosis (control group). After each case, participants answer a questionnaire on awareness of knowledge gaps (AKG) and situational interest (SI) regarding the case. Learning-task: half participants in each experimental condition read a study-material about jaundice either under free- or restricted-time. Test: the four subgroups perform the same recall-task with cued-questions about the study-material.

**Summary of Results:** So far, 79 students participated (data collection to be completed in February). Analysis of current data shows a significant effect of reflection on participants' AKG ( $p=0.03$ ) and SI ( $p<0.001$ ). Mean study-time of reflection/free-time group was longer than control/free-time group (450'' vs 374''); mean scores in the test of reflection/free-time (44) were higher than reflection/restricted-time (35), control/free-time (35,2) and control/restricted-time (35,7), but differences are borderline. Additional participants will allow to explore the potential interaction of reflection and study-time on test scores.

**Discussion and Conclusions:** Relative to making differential diagnosis, deliberate reflection fostered students' AKG and SI. Higher interest and, consequently, longer engagement in the study-task is apparently the mechanism underlying the tendency towards better performance of deliberate reflection in the test. Completing the study sample will show whether these findings hold.

**Take-home Messages:** Encouraging deliberate reflection on clinical cases might help students become aware of knowledge gaps, consequently fostering interest/engagement in learning and learning outcomes. References (1) Ribeiro et al. Effects of deliberate reflection on students' engagement in learning and learning outcomes. MedEduc. 2019; doi:10.1111/medu.13798.

(2) Sandars J. The use of reflection in medical education: AMEE Guide No. 44. MedTeach 2009;31:685-95.

(3) Mamede et al. Effects of reflective practice on the accuracy of medical diagnosis. MedEduc. 2008;42:468-475.

## #10S Short Communications - Teaching and Learning 3

10S5 (1892)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0930-0945

**Location of Presentation:** Room 0.51, Level 0

### 'Doctor Jazz': lessons that medical professionals can learn from jazz musicians

#### AUTHOR(S):

- Allard van Ark, University Medical Center Utrecht, the Netherlands (Presenter)
- Marjo Wijnen-Meijer, Technische Universität München, Germany

#### ABSTRACT

**Background:** Jazz is a musical form that originates from New Orleans in the late nineteenth century. A typical jazz ensemble consists of a rhythm section (drums, double bass, piano) and a horn section (tenor and alto saxophone, trumpet). Jazz consists of a layer of repetitive rhythmic and harmonic cycles, called 'choruses'. The chorus is provided by the rhythm section and has a fixed length (rhythm) and chord progression (harmony). The chord progression that is given to the soloist by the rhythm section serves as the foundation and starting point for improvisation, as jazz musicians have learned which tones can be used in improvisation together with a certain given chord. The resulting improvised solo can take many forms: from a simple variation on a well-known melody to discarding the melody entirely to rely solely on its underlying chord progression. The jazz framework of improvisation based on underlying rhythmic and harmonic structure in an ensemble context has been related to medicine previously. It applies to medicine and medical education both as a metaphor for organisation and culture as well as a practical tool in clinical education.

**Summary of Work:** A systematic search was conducted, combining keywords with regard to jazz, medicine and medical education. Background information concerning jazz music and several jazz musicians was retrieved through an additional non-systematic search using Google Scholar.

**Summary of Results:** Lessons with regard to improvisational skills, both in communication with patients and in a technical context, communication skills, leadership, interprofessional teamwork and coping with errors are presented.

**Discussion and Conclusions:** Doctors and medical students could learn various lessons from jazz music performance and jazz musicians. The potential and the possibilities of implementing jazz into the medical curriculum, in order to contribute to the development of professional skills and attitudes of medical students, could be explored further.

**Take-home Messages:** - Medical professionals can learn from the concepts behind jazz music and its required skills. - These include improvisational skills, both in communication with patients as well as in a technical context, conversational skills, leadership, interprofessional teamwork and coping with errors. - Evidence on implementation of jazz in the medical curriculum is scarce. Its potential could be explored further.

## #10S Short Communications - Teaching and Learning 3

### 10S6 (3298)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 0945-1000

**Location of Presentation:** Room 0.51, Level 0

### Using design thinking to re-invent the delivery of undergraduate medical education

#### AUTHOR(S):

- **Rahim Kachra, University of Calgary, Canada (Presenter)**
- Allison Brown, University of Calgary, Canada
- Nishan Sharma, University of Calgary, Canada
- Mike Paget, University of Calgary, Canada

#### ABSTRACT

**Background:** Medical schools have overhauled their mechanisms of education delivery. Lectures have been cast aside as antiquated and ineffective methods of information exchange. Students experience inattention early and throughout lectures. Students in classes with traditional lectures are 1.5 times more likely to fail than those with active learning. The optimal method of educational delivery is unclear. Design thinking can be used in the creation of a new product/process. The first stage emphasizes data gathering, keeping users at the centre of the research, but engaging all stakeholders. The second stage consists of a series of tools through which one can make sense of what has been learned, turning it into opportunities for design, and making and evaluating prototypes. The final stage makes concepts real and assesses if they are working.

**Summary of Work:** We observed student behaviours during lectures and small group sessions throughout pre-clerkship. We also conducted interviews and focus groups with students, course chairs, faculty lecturers, technology management, and course administrators. Insights were used to create theme. Ideas were bundled into more complex concepts, from which we identified quick wins and larger solutions. Next steps include assessing feasibility and prototyping our innovations.

**Summary of Results:** 316 unique insights were identified and subsequently divided into 11 themes, including clinical experiences, logistics, and finances. Eighty-nine unique solutions were proposed by our team, which were bundled into 12 larger-scale solutions. We selected our top 5 quick wins, and top 3 major projects to present to the pre-clerkship committee for consideration.

**Discussion and Conclusions:** At this unique time in medical education, many programs are redefining themselves in order to determine the optimal method of course delivery. We believe we are the first program to use design thinking to create a student-centered approach to the delivery of course content. Our process promises to uncover rich data and insights that we are currently not capturing. Change, if indicated, will be a transparent and 'evidence-based' process.

**Take-home Messages:** - Design thinking is a promising methodology for reformatting the delivery of medical education. - A student-centered approach does not ignore other key stakeholders. - While change is exciting, it should be well-founded and necessary, and not for the sake of change.



## #10S Short Communications - Teaching and Learning 3

### 10S7 (3490)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1000-1015

**Location of Presentation:** Room 0.51, Level 0

### “Naturally, we will become more ‘immune’ to such visions”: Accepting and internalizing inappropriate behaviors as part of medical students’ professional socialization process

#### AUTHOR(S):

- Galit Neufeld Kroszynski, Sackler School of Medicine, Tel Aviv University, Israel (Presenter)
- Orit Karnieli-Miller
- Dafna Meitar

#### ABSTRACT

**Background:** Senior physicians play an essential role in medical students’ socialization process, where some become positive role models, while others become negative role models behaving inappropriately. To date, most of the research on exposure to inappropriate behavior was cross-sectional. Less is known about the longitudinal process of interpretation and perception of these behaviors, by the same students, over-time. Therefore, the present study explored a cohort of medical students’ prospective and retrospective observations and interpretations of senior physicians’ inappropriate behaviors.

**Summary of Work:** This was a systematic qualitative immersion/crystallization analysis of 134 reflective diaries and narratives describing inappropriate physicians’ behaviors written by 53 students throughout their medical studies; and 11 in-depth, semi-structured interviews with randomly selected students who wrote these narratives. The data was analyzed in an iterative consensus-building process to identify how inappropriate behaviors were perceived and interpreted.

**Summary of Results:** At the beginning of their training, the students expressed a judgmental attitude towards problematic behaviors such as lack of respect/sensitivity to patients and physicians using aggression. At that point, students mainly expressed confidence and hope that they would behave differently when they become doctors. Towards/upon completion of their training the same students were more forgiving of these behaviors, focused on providing explanations and justifying them (including blaming the system), and mentioning that they can see themselves behaving similarly or even have been acting in that manner.

**Discussion and Conclusions:** The process of medical students’ professional socialization includes a transition from expecting a respectful and caring behavior, towards legitimization and acceptance of undesirable behaviors that the same students previously criticized. The shift exemplifies how empathy and caring decreases. Students struggling with the system challenges found themselves accepting inappropriate behavior.

**Take-home Messages:** The socialization process of legitimizing inappropriate behaviors is concerning; The study's findings show that the reflective process by itself is not enough as it does not necessarily lead to the preservation of empathic attitudes and behaviors. Therefore, there is a need to develop other interventions that will help students preserve their original values of respect, compassion, and caring, even within the difficult and challenging healthcare settings.

## #10T Round Table – Research

### 10T1 (374)

**Date of Session:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Room L5, Level 1

### Longitudinal Qualitative Research in Health Professions Education: Heeding the Call

#### AUTHOR(S):

- Dorene Balmer, University of Pennsylvania, USA (Presenter)
- Elise Paradis, University of Toronto, Canada
- Anique Atherley, University of the West Indies, Barbados
- Pim Teunissen, Maastricht University, the Netherlands

#### ABSTRACT

Research papers in health professions education (HPE) often conclude with call for longitudinal qualitative research to explore how complex phenomena unfold through time. Seldom is that call heeded. As a result, the field of HPE continues to understand complex phenomena (e.g., role transition, identity construction) as a process but to study them as if they were static.

In a search of HPE journals, only 11 articles were identified as employing a longitudinal qualitative research approach. Many factors are likely to contribute to this dearth of longitudinal qualitative research. The aim of this Round Table presentation is to develop a shared understanding of the genre of longitudinal qualitative research in HPE, to explore barriers to conducting such research in HPE and to describe implications for analysis, reporting, and research relationships that should inform plans to conduct longitudinal qualitative research.

## #10T Round Table – Research

### 10T2 (2171)

**Date of Session:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Room L5, Level 1

### Dethroning experimental research methods in developing education innovations

#### AUTHOR(S):

- Satid Thammasitboon, Baylor College of Medicine, USA (Presenter)
- Brian Rissmiller, Baylor College of Medicine, USA
- Kyle Brown, Baylor College of Medicine, USA

#### ABSTRACT

There are constant needs for innovative solutions to address educational problems. This discussion will serve as a call to arms for educators and scholars to be equipped with innovation skills to stay abreast in the Volatile, Uncertain, Complex, Ambiguous (VUCA) world.

Traditionally, an experimental research model (i.e. hypothesis driven research) has been used to plan and study innovations in health professions education (HPE). However, employing this methodology in the complex reality of a learning environment has met with mixed results as data from many creative educational endeavors simply cannot disprove the null hypothesis or minimize confounders. Thus, it is important to underscore how other research paradigms, such as constructivism and critical theory, align with the complex environment of research and innovation in HPE.

Educators and HPE scholars, therefore, need to embrace alternative paradigms and apply appropriate methods to the design and evaluation of innovations. We must learn how principles from design-based research, design thinking, practical trials, and implementation research can be applied to the HPE innovations. These methods share frameworks and processes such as embracing complexity (rather than controlling it) and focusing on hands-on solutions via iterative improvement cycles (rather than completing an experiment and then assessing pre-determined outcomes).

## #10T Round Table – Research

### 10T3 (1572)

**Date of Session:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Room L5, Level 1

### Review methodologies: Meta-narrative synthesis for secondary research in medical education

#### AUTHOR(S):

- Eleanor Bowen-Jones, King's College London, UK (*Presenter*)
- Birgit Fruhstorfer, Warwick University, UK
- Ann Wylie, King's College London, UK
- Paula Baraitser, King's College London, UK
- Carwyn Hooper, St George's, University of London, UK

#### ABSTRACT

Meta-narrative synthesis is an approach to literature reviews that synthesises literature regarding a given topic from multiple research traditions. This methodology is relatively new and was developed by Greenhalgh et al. (2005) when conducting a review in health services research. Since then meta-narrative reviews have been conducted in various fields of health care but they have not yet received much uptake in medical education.

During this presentation the lead author will outline how she approached conducting a meta-narrative review for her PhD on the topic of international electives in undergraduate medical education. She will use her own research as a case study to explore the process of carrying out a meta-narrative review, and to highlight the opportunities and challenges inherent in this review methodology.

## #10T Round Table – Research

### 10T4 (2048)

**Date of Session:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Room L5, Level 1

### Show Me The Money: How to speak to donors about funding health professions education research

#### AUTHOR(S):

- Robert Paul, University of Toronto, Canada (*Presenter*)
- Kerry Knickle, Michener Institute, Canada
- Nancy McNaughton, Wilson Centre, University of Toronto, Canada
- Jeannine Girard-Pearlman, Wilson Centre, University of Toronto, Canada

#### ABSTRACT

Funding for health professions education research is becoming more and more challenging. Traditional governmental sources are becoming overstretched and as a result are unlikely to be able to meet the growing funding needs in this burgeoning area. Philanthropy is emerging as an important funding mechanism and as a supplement to traditional government sources in countries around the world. Research on philanthropy in health professions education is only beginning but preliminary results are showing that there is a fundamental lack of knowledge and communication skill related to fundraising amongst medical education leaders and researchers to meet this challenge. To meet this growing need and the emerging obligatory competency for fundraising, health professions leaders and educators are beginning to engage in discussion with their institutional leaders, their institutional fund-raisers and even their potential donors. In doing so, they are rapidly becoming aware that speaking with each of these groups about their work is different than speaking with colleagues; that they have to re learn how to speak in clear, simple non-technical terms. They are also quickly realizing that understanding this and doing it are two different things.

In this round table presentation, characteristics of successful conversations will be discussed as will how simulation and “simulated donors” can help health professions education leaders and academics re-learn how to speak about their domain in ways the layperson can understand.



## #10U Conference Workshop

### 10U

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room L8, Level 1

### Implementation of Competence Based Medical Education in Surgery (CBME): Challenges from an international perspective

#### PRESENTER(S):

- Helen MacRae, University of Toronto, Department of Surgery, Canada
- Gareth Griffiths, NHS Tayside, UK

#### ABSTRACT

**Background:** CBME is a new framework for medical education currently being implemented in many jurisdictions. Procedural based specialties face special challenges both with implementation of a CBME curriculum, and with evaluation of the outcomes. Entrustable professional activities (EPA's) are the outcome measure used for progression within CBME, and in surgery, EPA's include the ability to complete operations independently, along with other important milestones. This workshop will explore how CBME in surgery has been implemented in different jurisdictions to help participants recognize and develop an approach to implementation challenges.

**Who should attend:** Surgical educators involved in post graduate education programs that have transitioned to or are considering transitioning to a CBME framework.

**Structure of workshop:** Surgeons from different parts of the world (North America, Europe, Australasia) will share their perspectives on the challenges, pitfalls and successes of CBME implementation in their own jurisdictions. This will be followed by a facilitated discussion on overcoming implementation challenges within small groups.

**Intended Outcomes:** At the completion of the workshop participants will be able to:

- Describe the challenges of implementation of CBME in surgery
- Outline the importance of faculty development prior to CBME implementation
- Describe how assessment in CBME in surgery can be used

**Level:** Intermediate/Advanced

## #10V Conference Workshop

### 10V

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 0.11-12, Level 0

### Constructive Alignment: What makes teaching-learning interactions stick?

#### PRESENTER(S):

- Chitra Subramaniam, AO Foundation, USA
- Miriam Uhlmann, AO Education Institute, Switzerland

#### ABSTRACT

**Background:** In CPD, most educational activities are developed with a focus on “what needs to be taught”. Most presenters use existing content that they assume was well received and adapt them to the new topic that they are presenting on. Research in the cognitive and the learning sciences have provided insights into the way people learning and process information. Most of the teaching techniques and instructional design concepts in CPD do not align with what the cognitive and learning sciences tell us. Instructional elements and teaching formats that support such deep learning engagements need to be completely aligned with the overall goals and objectives, the learning needs of the audiences and hence the practice gaps. John Biggs describes such alignment as the most critical component that promotes active learning and learner engagement. The session will also discuss techniques that can support achieving such alignment and current challenges in CPD related to this and how to overcome them

**Who should attend:** All those involved in the design and development of content, instructional elements, and delivery of CPD can benefit from this session. In addition, those that serve as faculty, speakers and authors of content, curriculum developers, instructional designers and developers and everyone with an understanding of the adult learning principles will be invited to join.

**Structure of workshop:** The session will further extend the application of the adult learning principles to develop and deliver aligned teaching formats. The facilitators through small group activities and discussions will help the audience achieve alignment for case `scenarios presented. The facilitators will then the case scenarios and provide the necessary feedback. In addition, once the formats have been identified, the facilitators will discuss effective ways to deliver the formats through teaching. In small groups participants will be given the necessary time to develop their own plan to implement such instructional design elements and the associated activities.

#### Intended Outcomes:

- Discuss the concept of constructive alignment
- Identify ways to achieve the alignment in CPD
- Explain the steps involved in achieving constructive alignment when developing content for CPD sessions
- Discuss learning interactions that are effective in CPD
- Explain the ways to deliver different formats of teaching effectively

**Level:** Beginner to intermediate

## #10W Conference Workshop

### 10W (3328)

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 0.49-0.50, Level 0

### Deconstructing Competency-Based Assessment in Interprofessional Education and Collaboration: A Three-Stage Continuum

#### PRESENTER(S):

- Susan J. Wagner, Dept. of Speech-Language Pathology, Faculty of Medicine, University of Toronto, Canada
- Brian S. Simmons, Dept. of Pediatrics, Sunnybrook Health Sciences Centre & Faculty of Medicine, University of Toronto, Canada

#### ABSTRACT

**Background:** The interprofessional education (IPE) literature has expanded significantly in the past few years to provide a rich variety of evaluation studies of different IPE activities, however, efforts to produce rigorous assessment of IPE learning continue to be a challenge. At present, most IPE learning is focused on self-assessment that only provides a perception of what the learner thinks s/he may have learned. This reliance on weak forms of assessment data continue to undermine the quality of IPE assessment and fail to engage with key principles of assessment that should be adhered to in any IPE learning activity. This workshop is intended to introduce participants to a new competency-based assessment model that addresses many of the challenges inherent in assessing IPE.

**Who Should Attend?** Health profession educators interested in assessment, evaluation, competencies and interprofessional education.

**Structure of Workshop:** This workshop provides an exploration of key issues or challenges related to the assessment of IPE. It deconstructs the processes of designing and implementing an IPE assessment focusing on the structure (individual), function (team) and outcome (task). This new three-pronged clinical competency continuum model is illustrated employing the concepts of milestones and entrusted professional activities (EPAs) in a performance framework. Use of brief didactic presentations will help maximize interactive discussion and reflection, which will make up the majority of the session. Participants will also watch (DVD), a simulated IPE learning activity and consider how it could be assessed using the new assessment model. Specifically, this workshop will introduce participants to a range of key assessment concepts and ideas for consideration and implementation. This will enable them to apply strategies for application in their own contexts. As a result, the workshop will help to develop an understanding of the process of assessment and how to reconceptualize and develop assessment relevant to IPE.

#### Intended Outcomes:

- Identify key issues related to assessing performance in IPE;
- Describe a new Structure-Function-Outcome Model of IPE assessment;
- Reflect on the application of milestones and entrustable professional activities (EPAs) to this model

**Level:** Intermediate, for those with a background in IPE

## #10X Conference Workshop

### 10X (695)

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 0.96-97, Level 0

### Adaptive Education: Designing and offering education that is optimized for individual learners and contexts

#### PRESENTER(S):

- Michael Seropian, iMedTrust, USA
- Ian Curran, Duke-NUS Medical School, Singapore
- Davinder Sandhu, RCSI-Bahrain, Bahrain
- Hill Jason, iMedTrust, USA
- Jane Westberg, iMedTrust, USA
- Kamila Hawthorne, RCGP-UK, UK

#### ABSTRACT

**Background:** Individualizing our educational offerings should no longer be treated as a luxury. It can and should be a central obligation of all programs in the health professions. Our learners and the public deserve educational programs in the health professions that reliably help learners become effective, safe clinicians who continue learning throughout their careers. This challenging obligation must be accomplished under growing economic constraints, requiring us to be as effective and as efficient as possible. Substantial research and brain science confirm that some of our traditional habits, practices and assumptions are suboptimal. In particular, programs need to be far more responsive to the uniqueness of each learner and situation. With adequate educator preparation and the use of available, new technologies, we can provide more effective learning experiences than at any time in the past.

**Who Should Attend?** Anyone interested in redefining medical education

**Structure of Workshop:** This workshop will be highly participatory and a real-time demonstration of Adaptive Education. We will offer exercises and discussions built on direct engagement with simulations, multimedia, and illustrations of Adaptive Education in action. We will engage in tasks that are relevant to the participants' daily work as educators. We will use "Strategic" simulations to offer experiences that reinforce key topic areas  
Time: 15 minute- introduction & ice breaker 30 minute - content review and introduction to key concepts 40 minutes - progressive serial simulation to build complexity and understanding of key concepts and challenges 5 minutes - wrap-up

#### Intended Outcomes:

- a) An understanding of potential benefits for their learners from their having had a direct experience of being learners themselves in some examples of Adaptive Education.
- b) Expanded and more refined thinking about Adaptive Education.
- c) Ideas and practical plans they can consider implementing in their own settings.

**Level:** Suitable for all levels. This workshop will be a real time illustration of strategies to address mixed learner groups. We will respond to the full range of levels of readiness of those who attend.

## #10Y Conference Workshop

### 10Y (1924)

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 2.17, Level 2

### Towards a shared understanding of threshold concepts in global health in health professions education

#### PRESENTER(S):

- David Davies, University of Warwick, UK
- Ann Wylie, King's College London, UK
- Susan van Schalkwyk, Stellenbosch University, South Africa
- Moira Maley, The University of Western Australia, Australia

#### ABSTRACT

**Background:** Threshold concepts are understandings that open up new ways of thinking about something, that until the threshold has been crossed, learning cannot progress. These 'stuck places' represent fundamental ideas and practices that can be thought of as a transition, or a transformation of one way of thinking or being into another. The authors hypothesise that global health education, and electives in particular, offer rich opportunities for learners to resolve and reconcile troublesome knowledge or a disorientating dilemma to achieve new ways of understanding how the world works. As such, threshold concepts could represent important routes or gateways in the global health curriculum. If there are threshold concepts that all curricula share, then could we also share ways of teaching these, or guiding our students across the threshold, and also come to a common understanding of how to assess that transition?

**Who Should Attend?** Curriculum developers, global health teachers and elective leads, assessment leads, educationalists and students interested in global health education.

#### Structure of Workshop:

- Participant and facilitator introductions (10 mins)
- Plenary introduction to threshold concepts and transformative learning theory followed by a brief whole group discussion to clarify unfamiliar concepts (25 mins)
- Facilitated small group discussion topics (30 minutes) to include:
  - What might constitute a threshold concept in global health education?
  - Do we recognise and share these threshold concepts and transformative learning in our own curricula?
  - How are students supported through these threshold concepts, what other strategies could be used?
  - What are some suitable strategies for the assessment of threshold concepts?
  - What are the implications for the student that fails to cross the threshold?
- Plenary report back from small groups (30 mins)
- Synthesis of findings by facilitators and suggestions for next steps (10 mins)

**Intended Outcomes:** By the end of the session participants will be;

- familiar with concepts and theory associated with threshold concepts and transformative learning
- able to reflect on the value and potential of these concepts in global health learning
- able to consider strategies for teaching and assessing threshold concepts in global health

**Level:** Suitable for attendees of all levels, no prior understanding of threshold concepts is required.



## #10Z Conference Workshop

### 10Z (3031)

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 2.44, Level 2

### Medical Humanities: Education and Practice

#### PRESENTER(S):

- Jonathan McFarland, Sechenov University, Russian Federation
- Irina Markovina, Sechenov University, Russian Federation
- Ourania Varsou, Glasgow University, UK
- Emma Black, University of St Andrews, UK

#### ABSTRACT

**Background:** “The future of medicine depends on finding the way to (re)introduce the humanities to the core of medical education”. \* The further we move into the 21st century the more important this statement becomes, with more medical educators around the world seeing how critical it is to balance the tremendous advances of scientific medicine, with the humanities and their values. The main aim of this workshop is to explore how this (re)introduction can be made(1).

**Who Should Attend?** All interested in Medical Humanities.

**Structure of Workshop:** The workshop is divided into two sections: the first, Education, looks at the birth of a project, The Doctor as a Humanist, and its progress. We explain our journey from the first symposium in 2017, to a new online course dedicated to introducing the medical humanities to students around the world, and our recent second symposium held in Moscow. We will discuss the aims and ideals of this new and exciting project. The second section, Practice, will explore in small groups how arts and humanities can be integrated into vocational and science curricula through the use of the following three case studies:

- 1) Art in Anatomy - a current project using body painting and ‘alternative’ artistic methods on teaching and learning anatomy amongst science students,
- 2) Poems for Doctors - a current online project using poetry to promote conversation amongst medical students and doctors about challenging topics, and
- 3) Films in Medical Education - a past project where films were coupled with expert-led discussions to discuss medical topics. The main goals of the workshop will be to allow the participants to learn about new medical humanities projects (The Doctor as a Humanist), and interactively discuss the impact of these in their own institutions.

**Intended Outcomes:** Based on the above discussions the participants will be able to initiate similar activities at their institutions, develop their own projects or join the projects presented and truly make them International, Interdisciplinary and Intergenerational.

**Level:** All levels

**Reference:** McFarland, Markovina, Gibbs, 2018

## #10AA Conference Workshop

### 10AA (1763)

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 2.61, Level 2

### Achieving patient-oriented care with an interprofessional team. Implications for the educational process

#### PRESENTER(S):

- Angelika Eder, FH Campus Wien University of Applied Sciences, Department Health Sciences, Austria
- Richard Marz, Medical University Vienna, Austria
- Matthäus Ch. Grasl, Medical University Vienna, Austria
- Karl F Kremser, Medical University, Austria

#### ABSTRACT

**Background:** Insufficient teamwork among healthcare professionals has been identified as a systemic problem in providing patient-oriented care. On the other hand, there is good evidence that functioning interprofessional interactions improve motivation and lead to more stable working conditions. Students benefit from didactic concepts which embrace interprofessional education (IPE) by improving their own perception of their professional identity and at the same time develop a better understanding for other professions.

**Who Should Attend?** Healthcare professionals (physicians, nurses... ) educators, students

**Structure of Workshop:** Based on discussions in small groups you will design an interprofessional working and training environment for the care of geriatric patients. This will be followed by a plenary discussion in which all ideas generated will be discussed and evaluated.

**Intended Outcomes:** You will learn about and experience the competence profiles of various medical professions and their potential for interaction. You will identify common issues and challenges in designing goal-oriented therapy and care.

**Level:** introductory

## #10BB Conference Workshop

### 10BB (720)

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 2.83, Level 2

### How to introduce high quality Team-based learning (TBL) into the curriculum

#### PRESENTER(S):

- Annette Burgess, The University of Sydney, Australia
- Jane Bleasel, The University of Sydney, Australia
- Chris Roberts, The University of Sydney, Australia
- Roger Garsia, The University of Sydney, Australia
- Antonia Clarke, The University of Sydney, Australia
- Inam Haq, The University of Sydney, Australia

#### ABSTRACT

**Background:** Team-based learning (TBL) has gained recent popularity as an alternative to problem-based learning (PBL), particularly in the pre-clinical years of medical school. In comparison to PBL, TBL maintains the advantages of small group teaching and learning, but importantly, without the need for large numbers of tutors. Using a flipped classroom approach, and specific steps, TBL promotes: collaborative peer learning in small groups, student accountability, and provides standardisation across large student cohorts. The workshop facilitators have developed and implemented a TBL format within a medical program, specifically designed to promote class discussion and clinical reasoning, with free-text responses, avoiding pre-determined outcomes. The purpose of this workshop is to empower attendees to explore the relative merits of TBL, and how these may be applied to their own medicine and health science curricula. This interactive workshop will utilise the TBL format to explore the application of readiness assurance testing, student feedback, clinical problem-solving, and student peer-review.

**Who Should Attend?** Any individual (student, staff, faculty, deans level) involved in health education and training may benefit from this workshop. We will facilitate an interactive workshop, designed to share our experiences, and allow participants to discuss best practices and instructional strategies that will align with their curriculum outcomes, and promote student engagement in TBL designed classes.

**Structure of Workshop:** We will facilitate an interactive workshop, designed to share experiences, and allow participants to discuss instructional strategies that align with their curriculum outcomes, and promote student engagement in TBL designed classes. Active participation in small groups in the format of a team-based learning class is required. We will use a short video, Individual Readiness Assurance Test (multiple choice questions), Team Readiness Assurance Test, feedback, and problem solving activities.

**Intended Outcomes:** Participants will gain an understanding of the application of TBL, within the pre-clinical years of a medical curriculum. Participants will leave with the tools to apply best practice in the implementation of TBL, to suit the needs of their students, faculty, curriculum, and associated institutions.

**Level:** Introductory/Intermediate

## #10CC Conference Workshop

### 10CC (2699)

**Date of Workshop:** Wednesday, 28 August 2019

**Time of Workshop:** 0830-1015

**Location of Workshop:** Room 2.95, Level 2

### Artificial Intelligence in Medical Education: A Practical Guide

#### PRESENTER(S):

- Nabil Zary, Mohammed Bin Rashid University of Medicine and Health Sciences, United Arab Emirates
- Smriti Pathak, Imperial College London, UK
- Paul Gagnon, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
- Malolan Chetlur, IBM Research, India

#### ABSTRACT

**Background:** Artificial Intelligence (AI) has evolved throughout the years, developing rapidly in several aspects, with the recent advances in deep learning and artificial neural networks. AI, the term coined by John McCarthy in 1955, is defined as a machine exhibiting intelligent behavior which includes perceiving, reasoning, learning or communicating as well as the ability to perform human tasks. AI is a spectrum which consists of, but not limited to, the following: machine learning, computer vision, natural language processing, and pattern recognition. Over the past 25 years, there have been significant developments of AI in education, better known as Artificial Intelligence in Education. Advances such as teacher bots: teaching assistants tasked to support content delivery, provide feedback and manage supervision are applications of AI in education. The increased interest in the application of AI in medical education brings its own set of challenges. As the degree of digitalization in medical curricula increases, it is therefore timely to provide AMEE participants with an opportunity to understand and actively consider the leveraging of AI in medical education.

**Who Should Attend?** Anyone with an interest in the use of Artificial Intelligence in Medical Education is invited to participate. Individuals involved with planning, design, development and implementation of technology enabled/enhanced innovations are especially encouraged to attend.

**Structure of Workshop:** The workshop will start with an overview of the current state of AI in medical education, followed by small group interactive activities aimed at increasing participants' overall understanding of AI in education. There will then be a large group discussion of some case examples brought by the presenters. Two further large and small group exercises will allow participants to apply key concepts related to the planning of an AI project, targeting (i) curriculum, (ii) learning or (iii) assessment. (A toolbox containing templates and best practice guidelines will be provided for each participant)

**Intended Outcomes:** At the conclusion of this workshop, participants will be able to  
(i) identify key elements specific to understanding artificial intelligence in medical education,  
(ii) describe an approach to designing AI enabled learning and assessment activities, and  
(iii) outline common strategies and challenges when planning and evaluating AI projects.

**Level:** Introductory/Intermediate

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD01 (123)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### Self-Assessed Confidence Level as an Evaluation Tool in Perineal Rupture Repair Training in Indonesia

#### AUTHOR(S):

- Graciella Wahjoepramono, Indonesian Clinical Training and Education Centre, Indonesia (Presenter)
- Herbert Situmorang, Indonesian Clinical Training and Education Centre, Indonesia
- Sabrina Putrianita, Indonesian Clinical Training and Education Centre, Indonesia
- Amelia Febrina, Indonesian Clinical Training and Education Centre, Indonesia
- Reginald Rustandi, Indonesian Clinical Training and Education Centre, Indonesia
- Fernandi Moegni, Obstetrics and Gynecology Department, Rumah Sakit Cipto Mangunkusumo, Indonesia

#### ABSTRACT

**Background:** Maternal and newborn health is a key indicator of a country's medical system; a perimeter that has greatly improved over the past few years in Indonesia. Current maternal and neonatal health still requires further advancement in skills, knowledge and capabilities. One of the morbidities still often found in maternal health is perineal rupture, that can worsen with improper management. To increase effectiveness of care, practitioner confidence is required for a good patient-doctor interaction and assessment of the patient's concerns. Therefore, this study addresses the issue of clinical practice confidence in students through a brief one-day pre-service perineal rupture training.

**Summary of Work:** Our research was conducted on 5th or 6th year medical students attending a pre-service perineal rupture training on grade-1 and 2 perineal ruptures. Participants were asked to fill out a self-confidence questionnaire (using a modified Likert scale) before and after the training program consisting of lectures, videos, and a hands-on practice session.

**Summary of Results:** Overall, 52 students were eligible for the study and self-assessed their confidence. Most students (59%) improved confidence after training, raising their confidence score category. Score improvements weren't equally distributed throughout the different questions, with highest improvements in perineal anatomy and perineal rupture repair. Students with previous basic surgical skill training had higher pre-test scores ( $p < 0,005$ ), but other factors such as age and gender had no correlation with confidence results.

**Discussion and Conclusions:** Most students reported improved confidence after a pre-service perineal rupture repair training. Future training should investigate the relationship between confidence and competence on a more well-distributed population that can further identify the best method for education.

**Take-home Messages:** Maternal health in developing countries such as Indonesia still require further development and training. Through this research, we aim to observe the effects of a brief one-day perineal rupture repair training in the confidence levels of medical students, which will ultimately lead to clinical practice confidence. Results showed that this training increased confidence levels significantly, and can also indicate areas with the most and least improvement. This self-assessed confidence questionnaire can be further proposed as an evaluation tool for other training programs, especially considering its simplicity and efficiency.



## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD02 (379)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### How can photography reflect student self-awareness?

#### AUTHOR(S):

- Marisa Jitnupong Bunphan, Suratthani Hospital, Thailand (Presenter)
- Thanita Somton, Suratthani Hospital, Thailand

#### ABSTRACT

**Background:** Reflective practice is a great tool for learning process. It promotes student's understanding both self and situation that can lead to intellectual growth. Our aim is to improve reflective skills in medical students.

**Summary of Work:** A descriptive study was conducted in 4th and 5th year medical students of Suratthani Medical Education Center, Thailand on August, 15th 2018. Each student had time to free walking and took the photo that evoked the feelings, thoughts and memories. Four small group reflection were discussed using Gibbs reflective model (1988). Medical teachers facilitated them to explore their emotions and belief system.

**Summary of Results:** There were 44.45% of medical students participated. Most of them had reflected their feelings and experiences abundantly and openly, few students needed encouragement. But most students should gain more practices in deep listening and learn to reflect others. All pictures were about buildings, nature, people and medical related images. Two-third pictures students expressed were about experiences during medical studies. One-third pictures students expressed were about inner feelings. Some negative experiences became negative feelings and thoughts, but after group sharing it can relief stress and find some solutions. Most students reflected on this practices could help them explore own self, and deepen understanding friends' feelings through their pictures. Surprisingly it reduced some stress and they got some tips for overcoming it.

**Discussion and Conclusions:** Reflective practices using photography could help medical students to develop self-awareness and understand others that can improve lifelong learning skills. Also it could lower the stress.

**Take-home Messages:** Medical teachers should create reflective exercise activities for develop reflective skills to improve student self-awareness. Also more deep listening practices is an essential for reflective practices group.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD03 (513)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

## Research in action - how to teach research skills in undergraduate biomedical students

### AUTHOR(S):

- Femmie de Vegt, Radboud university medical center, the Netherlands (Presenter)
- Iris van Rooij, Radboud university medical center, the Netherlands
- Thom Oostendorp, Radboud university medical center, the Netherlands
- Jos van Dijck, Radboud university medical center, the Netherlands
- Hans Otten, Radboud university medical center, the Netherlands

### ABSTRACT

**Background:** In order to understand and appreciate clinical research, it is important to integrate research in (bio)medical education. Students develop research skills at a higher level if they are actively involved and participate in realistic research activities. We describe and evaluate our practice-based learning approach in undergraduate students Biomedical Sciences at Radboud University in Nijmegen, the Netherlands.

**Summary of Work:** Freshman students who started their study Biomedical Sciences between 2015 and 2018 were prepared for clinical research activities at the start of their study. In the first semester, they collected data on themselves concerning body weight, body circumferences, fat mass, bone mass, heart rate, ECG findings, genetic variants, life style habits, physical activity and food consumption. All data were entered into one (anonymous) Student Research Database. In the second semester, all students defined their own research questions, performed the statistical data analyses and wrote a short research paper. The research papers were assessed with the use of a rubric by experienced researchers. The program is still running and the students currently involved (n=100) will be asked for their experiences and appreciation of this practice-based learning approach in spring 2019.

**Summary of Results:** At this moment, the Student Research Database includes data from 298 individual students. Until now 272 short research papers have been made and assessed. The mean grades (range) were 6.4 (4.7 - 9.5) in 2016, 6.6 (2.3 - 9.2) in 2017 and 6.5 (4.0 - 9.3) in 2018. The experiences and appreciation scores of students will be presented at AMEE 2019.

**Discussion and Conclusions:** It is feasible and attractive to implement research skills in undergraduate programs by practice-based learning. Students experience research by performing measurements and collect data in their own group and they are more connected with the data collected. Using these, more personal, data when performing statistical analyses and writing research reports will introduce them gently in the world of clinical research.

**Take-home Messages:** It is feasible and attractive to implement research skills in undergraduate programs by practice-based learning. Students develop research skills at a higher level if they are actively involved and participate in realistic research activities.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD04 (796)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### How do residents develop self-efficacy through clinical training? A qualitative study

#### AUTHOR(S):

- Kazuki Tokumasu, Department of General Medicine, Okayama University Hospital, Japan (Presenter)
- Mikako Obika, Department of General Medicine, Okayama University Hospital, Japan
- Haruo Obara, Department of General Internal Medicine, Okinawa Chubu Hospital, Japan
- Makoto Kikukawa, Department of Medical Education, Kyusyu University, Japan
- Fumio Otsuka, Department of General Medicine, Okayama University Hospital, Japan

#### ABSTRACT

**Background:** Self-efficacy is the 'belief in one's capabilities to organize and execute the courses of action required to produce given attainments' (Bandura, 1997). Self-efficacy has demonstrated positive correlations with students' performances in undergraduate medical education (Sevgi, 2013). However, a few quantitative studies revealed that interview or simulation training increased the level of self-efficacy in postgraduate training settings (Robert, 1998). Thus, studies that explain what kind of experience is effective or how residents develop their experiences to enhance self-efficacy have been rarely conducted. The purpose of this study is to explore how residents develop self-efficacy in clinical training qualitatively.

**Summary of Work:** Qualitative semi-structured interviews of five Japanese postgraduate medical residents at Okinawa Chubu Hospital and Okayama University were undertaken, recorded, and transcribed. The transcripts were analyzed based on Steps for Coding and Theorization (Otani, 2008), which is a sequential and thematic qualitative data analysis technique.

**Summary of Results:** Two main experiences were identified to develop residents' self-efficacy: First, 'Successful clinical experience with autonomy and responsibility' was the most effective factor in enhancing residents' self-efficacy. Additionally, thankfulness from patients and attending physicians' approval reinforced the efficacy. Autonomy is an attitude of having one's own choice in managing patients. Responsibility was a force that obliges residents to take charge of their patients. Second, 'Role model of a close member' influenced self-efficacy positively. Spending time with well-trained senior doctor, inspired the resident doctors to attain the same performance level and improve their sense of self-efficacy.

**Discussion and Conclusions:** Successful clinical experience is strongly related to mastery experience, which is the most effective way of creating a strong sense of efficacy. Additionally, in postgraduate clinical settings, autonomy and responsibility, that are crucial qualities for clinicians, are powerful factors that strengthen the mastery experience. As young doctors, residents felt a huge gap between own goals to contribute to patients' management and actual abilities. Thus, these mastery experiences have a great power to develop self-efficacy. Role modeling is a vicarious experience in which seeing similar people succeed strengthens self-efficacy. The closer the relationship, the deeper is its influence on self-efficacy.

**Take-home Messages:** Realization of the processes involved in developing self-efficacy among physicians-in-training can make their development more effective.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD05 (877)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### Stimulating reflective learning and practice in anaesthesiology residents with the obstetric anaesthesia diary

#### AUTHOR(S):

- John Lee, Department of Women's Anaesthesia, KK Women's and Children's Hospital, Singapore (Presenter)
- Raymond Goy, Department of Womens Anaesthesia, KK Womens and Childrens Hospital, Singapore
- Farida Ithnin, Department of Women's Anaesthesia, KK Women's and Children's Hospital, Singapore
- Rajive Dabas, Department of Women's Anaesthesia, KK Women's and Children's Hospital, Singapore
- Singaraselvan Nagarajan, Department of Women's Anaesthesia, KK Women's and Children's Hospital, Singapore
- Eileen Lew, Department of Women's Anaesthesia, KK Women's and Children's Hospital, Singapore

#### ABSTRACT

**Background:** Anaesthesia training is based on the principle of constructivism, whereby residents construct new knowledge and understanding through task-centred, experiential practice. However, despite experiential learning, our residents reported low levels of reflective learning. Challenges reported included clinical and time pressures, lack of stimuli and a platform for reflection. We designed the obstetric anaesthesia diary, using the principles of the ALACT model (Action, Looking back, Awareness, Creating alternative methods, Trial), consisting of clinical and non-clinical open-ended questions. This qualitative study was conducted to explore the usefulness of the diary in stimulating reflective learning in the ACGME-I six core competencies.

**Summary of Work:** The study involved 15 residents and was conducted at the KK Women's and Children's Hospital, Singapore from 1 January to 30 December 2018. Pre-exposure focus group interviews were conducted prior to the introduction of the diary in order to explore the challenges with reflective learning. Participants were then given the reflective diary, which consisted of simple reflection instructions and trigger questions - their reflections were subsequently discussed with their mentors. Post-exposure focus group interviews were conducted after 3 months to explore the usefulness of the stimuli and diary. An inductive and iterative process of information collection, analysis and thematic classification was used.

**Summary of Results:** The participants were able to complete the learning cycle with the diary. Five positive learning outcomes were achieved: (1) a focus on patient well-being, (2) a transfer from superficial to deep learning in the clinical and non-clinical domains, (3) an increased ability to make clinical, professional and ethical judgments, (4) an insight into individual competencies and deficiencies, and (5) an awareness for interprofessional communication and collaboration.

**Discussion and Conclusions:** The diary is a simple, resource-appropriate platform to stimulate reflective learning and deep learning in anaesthesia training. The use of the diary created opportunities for formative feedback, and allowed validation of further explorations and trials.

**Take-home Messages:** The acquired reflective learning skills in reflection and exploration could be applied to other subspecialty training in anaesthesia and translated to other forms of learning and clinical situations.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD06 (912)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### Developing students' academic questioning skills: reliability and validity of an evaluation sheet

#### AUTHOR(S):

- Junichi Kameoka, Tohoku Medical & Pharmaceutical University, Japan (Presenter)
- Akira Horii, Tohoku University Graduate School of Medicine, Sendai, Japan
- Hajime Mushiake, Tohoku University Graduate School of Medicine, Sendai, Japan
- Ritsuko Shimizu, Tohoku University Graduate School of Medicine, Sendai, Japan
- Seiichi Ishii, Tohoku University Graduate School of Medicine, Sendai, Japan
- Yutaka Kagaya, Tohoku University Graduate School of Medicine, Sendai, Japan

#### ABSTRACT

**Background:** Developing students' academic questioning skills not only nurtures students' self-learning skills, but also can encourage them to ask good questions in future academic conferences, activating further scientific investigations. We have launched a program to develop questioning skills in three steps: 1) encourage students to ask as many questions as possible in classes, 2) develop a reliable and valid evaluation sheet for questions, and 3) make students ask many good questions in academic conferences using the evaluation sheet. Here, we report the results of the second step.

**Summary of Work:** This study was approved by the Tohoku University Research Ethics Board. We have created an evaluation sheet for questions consisting of: 1) importance, 2) originality (unexpectedness), 3) rhetoric, 4) whether micro or macro level (5-point scale) and 5) who benefits (3-point scale: questioner only; questioner plus audience; all including presenter). We tested the reliability of the evaluation sheet in three academic conferences (gastroenterology, hematology, and nursing) by asking reviewers (5 to 10 conference attendees belonging to other universities or hospitals) to evaluate questions asked in certain sessions using the evaluation sheet. We also asked reviewers to assess content validity (5-point scale).

**Summary of Results:** The average measure intraclass correlations for the five items (importance, originality, rhetoric, micro or macro, and 'who gets benefit' •) were 0.276, 0.683, 0.022, 0.823, 0.153 in the first trial (gastroenterology, 14 questions, 5 reviewers), 0.690, 0.550, 0.142, 0.852, 0.632 in the second trial (hematology, 16 questions, 6 reviewers), and 0.795, 0.627, 0.625, 0.874, 0.779 in the third trial (nursing, 17 questions, 10 reviewers), respectively. The mean content validity scores of the five items above were 4.5, 3.7, 4.3, 4.3, 4.3 in the first trial, 4.4, 3.6, 3.5, 3.6, 4.6 in the second trial, and 3.9, 4.0, 3.6, 3.1, 4.6 in the third trial, respectively.

**Discussion and Conclusions:** We have developed an evaluation sheet for good academic questions, with high inter-rater reliability and content validity.

**Take-home Messages:** Good questions could be measured by the current evaluation sheet, which might enable us to teach questioning skills systematically.



## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD07 (1312)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### Critique - Crisis Resource management improvement through Intellectual Questioning of authority - a pilot

#### AUTHOR(S):

- Gene Chan, National University Hospital Singapore, Singapore (Presenter)

#### ABSTRACT

**Background:** The primary aim of this study is to examine the effect of a teaching intervention on a residents' ability to challenge clearly wrong decisions by a superior during a simulated life-threatening crisis. In our secondary objective, we aim to examine the influence of personality, and the superior's gender on their ability to challenge incorrect decisions. We hypothesise that the residents lack skills and confidence to challenge clearly incorrect decisions by a superior during a life-threatening crisis, and that a male specialist would be less likely to be challenged compared to a female specialist. This study is conducted in an Asian population where hierarchy plays an important part in our society.

**Summary of Work:** This is a pilot study. We invited residents of postgraduate year 2 of training from various residency programs like internal medicine, emergency medicine and surgery/orthopaedics. We ensure that they have completed their ACLS certification. Participants are randomly allocated into the control or intervention arm. The intervention arm will receive a 30 minute lecture on crisis resource management and targeted teaching of cognitive skills required to monitor and challenge a superior's decision. 2-4 weeks later, the participants will take part in a simulation scenario and be assessed based on 6 challenge points with serious incorrect management decisions made by the specialist. A debrief session will be conducted thereafter.

**Summary of Results:** We recruited 11 Doctors (PGY2) for our pilot study. In the control arm, 2/5 doctors challenged the superior who was female in both cases. In the intervention arm, 4/6 doctors challenged the superior. For these, the ratio of male and female was equal.

**Discussion and Conclusions:** The intervention of a lecture on crisis resource management and a targeted teaching of cognitive skills required to challenge a superior's decision resulted in more than twice the number of challenges made by the PGY2 doctor. Doctors in the control group seemed to challenge if the superior was a female. But in the intervention group, the numbers were equal for male and female superiors.

**Take-home Messages:** A targeted lecture equipped junior doctors to challenge errors made by superiors. Further studies should be done with larger numbers for better correlation and significance.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DDo8 (1561)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### “It unsticks your mind”: Using a Narrated Musician's Masterclass as an Introduction to Competency-based Medical Education and Coaching

#### AUTHOR(S):

- Michael Sanatani, Western University, Canada (Presenter)
- Kylea Potvin, Western University, Canada

#### ABSTRACT

**Background:** Conveying the importance of direct observation and feedback is a major task in faculty development during the transition to competency-based education (CBME). Little is known about how best to achieve this goal. Musicians however have a strong coaching culture. We included a live cello masterclass in a faculty/trainee workshop in order to demonstrate coaching practice and highlight its use of observation and feedback.

**Summary of Work:** After a brief introduction on CBME, one faculty member who is also an amateur cellist worked on a classical piece with his professional coach, followed by a moderated 60 minute discussion with the audience. A subset of the attendees was subsequently interviewed to explore their reactions to the workshop. The interviews were then transcribed and a thematic analysis was performed according to Braun & Clark's 6-step framework.

**Summary of Results:** The subset consisted of 3 trainees and 10 faculty. Mean time since medical school graduation was 3.5y (Trainee) and 21.4y (Faculty). Twelve had prior participation in music or sports. Themes emerging from the transcripts were that the demonstration a) triggered reflection on their own teaching/learning habits, b) highlighted indicators of high quality teaching in general, and c) clearly was an educational tool with a beneficial effect on the audience including changed perspectives on the giving and receiving of feedback. Some common subthemes included recognition of inadequacies/challenges of observation in medicine (10 respondents), the importance of personal teaching skills improvement (7), the realization of time commitment needed (6), the benefits of observing a faculty member in the role of the trainee (6), and the importance of timely feedback (5).

**Discussion and Conclusions:** Inclusion of a moderated live music masterclass in an introductory faculty and trainee workshop appears to be an effective way to bring participants to a realization and articulation of key aspects of coaching and observation.

**Take-home Messages:** Using a narrated live music coaching demonstration can efficiently lead to audience self-reflection, recognition of high-quality educational practices, and changed perspectives about CBME.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD09 (1687)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### Medical student perceptions of their knowledge and skills in pharmacology in their first and final clinical years

#### AUTHOR(S):

- Shane Bullock, Monash University, School of Rural Health, Australia (Presenter)
- Anne Leversha, Monash University, School of Rural Health, Australia

#### ABSTRACT

**Background:** Pharmacology and therapeutics is important in medical education because it provides the scientific basis for safe and rational prescribing of medications. Students and junior doctors report feeling poorly prepared with respect to clinical pharmacology.

**Summary of Work:** Students in their first clinical year and final clinical year in our university's medical course, were surveyed as to the perceptions of their knowledge and skills in pharmacology, and valued aspects of their teaching and learning experience.

**Summary of Results:** Student knowledge of drug actions, adverse drug reactions (ADRs), pharmacokinetics and drug interactions were surveyed. Student ratings of knowledge of drug actions and ADRs was found to be different across the two clinical years, with the ratings higher in the final year. No such difference was found for pharmacokinetics and drug interactions. Final year students were also asked about their confidence to manage a patient's treatment using particular medications. The highest level of confidence was for antihypertensives and opioids, with the lowest level noted for anticonvulsants. First year clinical students wanted to know more about detail on individual drugs, ADRs, drug interactions, as well as antimicrobial drug choice and dosage. Final year students perceived their pharmacology experiences to be challenging in nature and indicated a desire for more formal systematic teaching of pharmacology and more prescribing practice.

**Discussion and Conclusions:** The findings suggest that across the clinical years, students perceive their knowledge of drug actions and ADRs improving. This was not found to be the case for pharmacokinetics and drug interactions. These aspects of knowledge are important components of medication management and patient safety but are complex to understand. Improved structured opportunities for integrated and applied learning in the clinical years of these aspects, as well as reinforcement of underlying threshold concepts, may be helpful.

**Take-home Messages:** Medical students value their pharmacology and therapeutics education, but want more formal teaching across their course. Some aspects of pharmacology and therapeutics knowledge, such as pharmacokinetics and drug interactions, are particularly complex and would benefit from more integrated and applied student learning opportunities, as well as reinforcement of threshold concepts. Medical students want more prescribing practice in the final year of their course.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD10 (1752)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### Evaluation of Scholarly Concentration Programs at Inha University College of Medicine

#### AUTHOR(S):

- Jiho Choi, Inha University College of Medicine, Republic of Korea (Presenter)
- Yeon Ji Lee, Inha University College of Medicine, Republic of Korea

#### ABSTRACT

**Background:** Scholarly concentration(SC) programs are curricular experiences that allow medical students to study specific subjects (both medical and nonmedical) in-depth beyond the conventional medical school curriculum. Inha University College of Medicine introduced SC programs at 2011. SC programs have 4 tracks which are (1) clinical programs(hospitals, local clinics etc.) (2) research programs(basic medicine, research laboratories, pharmaceutical companies etc.) (3) service programs(medical service, missionary service, welfare facilities etc.) (4) social programs(FDA, Ministry of Health and Welfare, law firms, newspaper companies etc.). The aim of this study is to compare the levels of achievement in the tracks and know whether there are differences in achievement among 4 tracks.

**Summary of Work:** At 2017, 50 second grade students participated in SC programs with either one 8weeks program or two 4 weeks programs. The programs were 76 in total. Students' achievements were evaluated in three fields which were the proposal (50%, autonomy & level of difficulty), the fulfillment(25%, attendance, attitude & performance) and the reports (25%, written report & presentation).

**Summary of Results:** There were 31 clinical programs, 8 research programs, 17 service programs and 20 social programs. The achievement scores were almost same in the proposal of clinical programs, research programs, service programs and social programs(48.9±4.2, 50, 50, 50). In the field of fulfillment the scores were 24.1±2.5, 24.9±0.4, 25 and 24.9±0.4 and in the field of reports, the scores were 18.6±1.6, 20.0±2.2, 18.9±2.1, 19.2±1.2.

**Discussion and Conclusions:** In the achievement scores of SC programs there were no difference in the field of proposal. But in the field of fulfillment the scores in clinical tracks were lower than other tracks. In the field of reports, the highest scores were in research tracks and the lowest scores were in clinical tracks. The reason of lower scores in clinical tracks is due to relatively lower interest in clinical tracks that seem less challenging than other tracks to the medical students.

**Take-home Messages:** There were differences in the achievement of SC programs among 4 different tracks.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD11 (2057)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### The Development of Practice-Based Reflective Learning Tools for Electronic Consultations

#### AUTHOR(S):

- Douglas Archibald, University of Ottawa, Canada (Presenter)
- Rachel Grant, University of Ottawa, Canada
- Sheena Guglani, Bruyere Research Institute, Canada
- Clare Liddy, University of Ottawa, Canada
- Delphine Tuot, University of California San Francisco, USA
- Erin Keely, University of Ottawa, Canada

#### ABSTRACT

**Background:** Electronic consultations (eConsults) between primary care providers (PCPs) and specialists provide a unique opportunity to use real patient presentations and consultative exchanges between providers to develop innovative educational activities. The purpose of this portion of study is to develop two eConsult reflective learning tools (RLTs) for PCPs and specialists that document learning arising from eConsults.

**Summary of Work:** Two multi-specialty eConsult programs were selected for investigation in Canada and the USA. Six experienced eConsult users and members of the research team reviewed existing reflective practice instruments and recommended modifications to optimize the applicability to eConsults. First, a validation exercise was completed by Subject Matter Experts to draft two preliminary RLTs (one for PCPs and one for specialists). Second, edits to the draft tools were made during a 3-round Delphi consensus building process that consisted of 36 providers in the US and Canada. The Delphi panel indicated importance of including each RLT item using a five-point Likert scale ranging from definitely include to definitely exclude. Consensus was defined as 70% agreement on a single item, or 80% or greater on two adjacent items at either end of the Likert scale. Third, a testing phase with 7 providers in the US and Canada was conducted. A pilot of the RLTs in real time is currently underway.

**Summary of Results:** After 3 rounds, consensus was reached for 3 items in each RLT. Revisions were made to other items based on suggestions of the Delphi panel. Testing of the RLTs with previous eConsult cases showed the use of the tools to be feasible. Piloting in real time is ongoing until later in the spring 2019, followed by participant interviews.

**Discussion and Conclusions:** Two RLTs have been developed using best practice principles. RLTs for eConsults have the potential to align and integrate continuing professional development for physicians with their medical practices.

**Take-home Messages:** 1. The primary benefit of electronic consultations is improving access to care for patients. However, there is a secondary benefit of learning opportunities for healthcare providers. 2. RLTs may facilitate physicians' professional practice learning needs.



## #10DD ePosters - Self-regulation / Metacognition / Coaching

**10DD12** (2843)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### Medical Students' Performance of Group Discussion in Problem Based Learning: Can it Influence A Cognitive Performance?

**AUTHOR(S):**

- Yeny Dyah Cahyaningrum, Medical Education Department, Faculty of Medicine, Universitas Islam, Indonesia (Presenter)

**ABSTRACT**

**Background:** Problem based learning encourage students to have the ability of self directed, collaborative, contextual, and student centered. Group discussion is an important learning activity in problem based learning. Students are given problems and encouraged to learn solving problems in the small group. The ability of students to discuss will reflect their cognitive abilities. The aim of this study knew the influence of student performance in the group discussion to the cognitive performance.

**Summary of Work:** This study was an analytical study with a cross sectional approach. We conducted an analysis of 610 students who attended the undergraduate learning. The students were assessed during group discussions. This assessment was carried out by the tutor and did with a form that has been validated. We analyze the influence for 24 block in undergraduate training. The block was consisted of 7 block in the first year, 7 block in the second year, 6 block in the third year, and 4 block in the fourth. The analysis was used to determine the effect of performance of the discussion on another cognitive abilities (block exams, achievement indexes, and quizzes). Data analysis was carried out by linear regression to determine the correlation between each assessment and the influence.

**Summary of Results:** This study was conducted on 610 students in undergraduate medical education. In all phases, the discussion performance contributes to variations in the written test scores, the final exam, and the achievement index in that semester (R square between 0.88-0.96). In each block, the discussion performance has a strong correlation with academic performance (r between 0.93-0.97). The final exam, quizzes, and achievement indexes together influence the discussion ability (p <0.05).

**Discussion and Conclusions:** Students performance in group discussion of Problem Based Learning can be a predictors of a cognitive performance. The concept of assessment for learning can be used in the assessment of student performance in group discussion.

**Take-home Messages:** The good students have a good willingness to learn and have a good ability in the context that being discussed. The assessment of group discussion can encourage the medical student to understand the knowledge.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD13 (2872)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### What Do You Want to Learn? Goal Setting in a Second Year Student Emergency Medicine Rotation

#### AUTHOR(S):

- Colleen Bush, Michigan State University College of Human Medicine, USA (Presenter)
- J.M. Monica van de Ridder, Spectrum Health Office of Medical Education, USA

#### ABSTRACT

**Background:** Exposure to Emergency Medicine (EM) is a crucial aspect of medical student education yet has historically been absent from training until 3rd or 4th year required or elective rotations. Michigan State University offers a new curriculum with EM as a mandatory rotation in the 2nd year. Research has been limited to determine what students want to learn from this type of early experience and if their goals are realistic. Goal setting helps students take ownership of their learning process, but unrealistic goals can be a hinderance. How realistic are the goals and strategies formulated by students prior to an early clinical EM rotation?

**Summary of Work:** We analyzed learner's short essays (n=45) using a qualitative conventional content analysis with an inductive approach (Hsieh 2005, Elo 2008). We used open coding, axial coding and selective coding to identify and categorize the goals that students set. Constant comparison was used to determine if students identified why goals were important and described strategies to accomplish them. Content experts identified if the strategies that students described were sufficient to reach their goal. Discrepancies were resolved through a process of deliberation until consensus was achieved.

**Summary of Results:** All students described one (n=33) or more goals in their essay. In total 64 goals were identified. Most frequently identified: physical examination (n=15), differential diagnosis (n=10), getting to know the EM practice (n=10), history taking (n=7), procedures (n=5), and working on autonomy (n=4). Most students (n=39) described strategies to achieve their goals. According to content experts those steps were useful (n=27), not very practical (n=10) or lacking (n=2). Only 20 students explained why the goal was important for them (e.g. to gain confidence or to reduce anxiety).

**Discussion and Conclusions:** The majority of goals formulated align with the Core Entrustable Professional Activities and are therefore are realistic in this setting. Half of the students were able to identify useful strategies for achieving their goals. Further research will focus on whether the students feel that they accomplished the goals they set for themselves.

**Take-home Messages:** Students need further training to identify useful strategies to accomplish goals.

## #10DD ePosters - Self-regulation / Metacognition / Coaching

### 10DD14 (3265)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer B, Level 2

### The role of the preceptor and reflection stands out in nursing students' clinical skills training in practice

#### AUTHOR(S):

- Karin Blomberg, Örebro University, Sweden (Presenter)
- Mona Ewertsson, Örebro University, Sweden
- Reneé Allvin, Clinical Skills Centre, Örebro University Hospital, Sweden
- Sangeeta Bagga-Gupta, School of Education and Communication, Jönköping University, Sweden

#### ABSTRACT

**Background:** Clinical skills forms a core part of nurses' professional work. Their theoretical understanding of skills and competence in performance are related to patient safety and efficient care. However, studies reveal that newly-graduated nurses doubt their ability in clinical skills, and fear risks of injuring patients. There is a lack of evidence on how nursing students learn clinical skills during their clinical practice. The aim was to explore how development of clinical skills occurs.

**Summary of Work:** An ethnographic approach was used. Data were collected by participant observations, informal conversations and interviews during clinical practice at an emergency department at a university hospital in Sweden. Data were analysed in an interactive collective process interwoven with data gathering.

**Summary of Results:** The preceptor has a central position in order to enhance learning and socialisation into clinical skills. Learning styles by the students influenced the relation to the preceptor and how their interaction played out. Preceptors and students showed different approaches in potential learning situations regarding practical skills. The way in which they interacted influenced how the student acted in the performance of practical skills. A tension was described between previous experiences from learning clinical skills at the clinical skills center and the clinical practice. In some cases, the students expressed that they understood that different performance was possible without the patient being injured but data also showed a difference from guidelines that could jeopardise patient safety.

**Discussion and Conclusions:** A salient theme was the role of perceived professional identity of the nursing student. The relation to the preceptor and also how expectations of, and space for, reflection played an important role in the formation of proficiency in clinical skills. There is a need for building continuity between the ways that students' experiences are organised across university-based and practice-based learning to enhance nursing students' learning and socialisation into practical skills.

**Take-home Messages:** The preceptor's role should be highly considered in skills training in practice. Reflecting on actions is essential for developing and learning practical skills, and thus to develop a professional identity as a nurse.

## #10EE ePosters - Simulation

### 10EE01 (113)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Does Simulation Improve Medical Student Confidence and Preparedness to Care for the Dying?

#### AUTHOR(S):

- Geoffrey Wells, Brighton and Sussex Medical School, UK (Presenter)
- Julia Montgomery, Brighton and Sussex Medical School, UK
- Andreas Hiersche, Brighton and Sussex University Hospitals, UK

#### ABSTRACT

**Background:** Current medical education fails to adequately prepare new doctors to care for dying patients, a status quo that has recently been subject to discourse within literature and reports from governing bodies. A lack of opportunity for clinical exposure to dying patients at undergraduate level is a well-documented contributory factor. The value of teaching using simulation is well-evidenced, but remains underused and under-reported in undergraduate palliative care curricula and literature respectively. We have undertaken a study to identify whether simulation can improve the confidence and preparedness of medical students to look after dying patients and their families.

**Summary of Work:** Six medical students undertook simulations individually, involving the care of a dying patient (Hi-fidelity simulator) and family member (actor). In four scenarios patient death occurred irrespective of student actions. Pre and post-simulation Thanatophobia (fear of dying) questionnaires measured student attitudes towards caring for dying patients. A post-simulation focus group facilitated collection of qualitative data regarding student confidence, preparedness, and value of the simulated experience. Common themes within the focus group data were identified using thematic analysis.

**Summary of Results:** Students found the simulations realistic, safe, and left them feeling better prepared to care for dying patients. Positive feedback regarding the opportunities afforded by simulation in exposure to dying patients was unanimous. Mean Thanatophobia scores fell (improved) following the simulations, and whilst not statistically significant ( $p=0.07$ ), this suggests simulation can improve student attitude and confidence to care for a dying patient. None of the students was negatively affected by the simulated experience.

**Discussion and Conclusions:** Results suggest a potential for simulation to work alongside clinical placement when improving much needed exposure of undergraduate medical students to the care of a dying patient, and in turn improve their confidence and preparedness. This study adds to a currently limited body of literature documenting the positive use of in-simulation death to teach medical undergraduates how to care for dying patients.

**Take-home Messages:** Simulation increases medical student exposure to the care of dying patients and may prove to be a valuable resource when preparing our newly qualified doctors to provide care at the end of life.

## #10EE ePosters - Simulation

### 10EE02 (2219)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Simulation in a district general hospital: a six-month evaluation shows the juice is worth the squeeze

#### AUTHOR(S):

- Lucy Baxter, South Tyneside District Hospital, UK (Presenter)
- Simon Panter, South Tyneside District Hospital, UK
- Mickey Jachuck, South Tyneside District Hospital, UK

#### ABSTRACT

**Background:** Aims were established by the team in April 2018: - Faculty development; - Develop a simulation training programme for Foundation and Core medical trainees (CMTs) in line with their curriculum; - Utilise simulation to support CMTs transition to being medical registrar; - Promote multidisciplinary simulation to improve patient care.

**Summary of Work** Roles were agreed:

Simulation Fellow: - Develop sessions for trainees in line with curricula; - Work with clinical teams to develop multidisciplinary simulation; - Promote and support junior doctor involvement in delivering simulation.

Simulation Lead: - Promote and support senior clinicians in delivering simulation to develop a permanent skilled faculty; - Attend regional and national meetings and feedback on developments in simulation and training curriculum requirements; - Support the simulation fellow in their role.

Deputy Director of Medical Education: - Promote and support the inclusion of non-medical staff in the faculty.

Whole team: - Participate in faculty training; - Deliver simulation.

**Summary of Results:** At six months, 100 multidisciplinary healthcare professionals have attended simulation training. Feedback has been universally positive (80.82% rating sessions as excellent, 19.18% as good). All foundation trainees have received a half-day simulation session on acute scenarios. CMTs have all been offered a full day emergency presentations simulation. Areas identified for multidisciplinary simulation were falls prevention and communication in difficult scenarios: capacity, end of life, Do not attempt cardiopulmonary resuscitation (DNACPR) and complaints. Sessions were piloted and the falls prevention simulation resulted in significant culture change. The communication simulation was well received. 95% of all attendees reported they would make changes to their practice as a result of the sessions. Faculty has been supported by senior and junior healthcare professionals.

**Discussion and Conclusions:** Scheduled for the next six months are further sessions including non-technical skills focused training days; for Foundation trainees on death, dying and decision making aligned with the curriculum, for CMTs designed to cover skills required as the medical registrar. There will also be further multidisciplinary simulation; a second communication day and development of in situ simulation for acute scenarios.

**Take-home Messages:** Investment in a simulation fellow and faculty has had a significant impact on simulation delivery which consequentially translated into patient safety benefits.



## #10EE ePosters - Simulation

### 10EE03 (2290)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Building a nationwide medical teachers' network engaging in simulation-based education

#### AUTHOR(S):

- Kazunobu Ishikawa, International University of Health and Welfare, Japan (Presenter)
- Gen Kobayashi, International University of Health and Welfare, Japan
- Hiroshi Igarashi, Hamamatsu Medical University, Japan
- Akiko Sugawara, Fukushima Medical University, Japan
- Toshiyuki Naka, International University of Health and Welfare, Japan
- Yukie Abe, Tokyo Medical University, Japan

#### ABSTRACT

**Background:** Since recent changes in medical care security policy have made clinical skills training difficult even in teaching hospitals, trainings utilizing suitable models and simulators are becoming essential to acquire clinical skills for medical students.

**Summary of Work:** We have performed nationwide survey on the prevalence and application of clinical skills laboratories for clerkships in 2012 and 2016. Registered questionnaires were sent to all medical schools in Japan (n=80). The response rate was 95%. In 2018, we have held a seminar and workshop for medical teachers engaging in simulation-based education in Japan to build a nationwide medical teachers' network.

**Summary of Results:** Two surveys revealed that almost all medical schools in Japan has installed clinical skills laboratories and that the floor space has been expanded. However, there were significant disparities in the implementation of simulation-based undergraduate education among schools. A total of 43 medical teachers engaging in simulation-based education in medicine, dentistry, nursing, pharmacology and health sciences participated in a first seminar and workshop in 2018. Through this event, we have observed significant needs for the learning opportunities to reinforce the skills such as organizing a faculty development, providing facilitation or feedback and analyzing outcomes after educational practice.

**Discussion and Conclusions:** Although there have been significant progresses in simulation-based education such as more spacious learning space of the facilities and the increased number of the annual uses by learners, human resource development for simulation remains to be achieved. In addition, we need to promote discussion how we qualify teachers/individuals for simulation in view of the circumstances in medical schools in Japan. To build a nationwide medical teachers' network engaging in simulation-based education, we have just opened a new mailing list 'Sim-Unit'.

**Take-home Messages:** A sustained effort building an alliance among medical teachers engaging in simulation-based education is essential to reform nationwide medical education. A project to build a nationwide medical teachers' network engaging in simulation-based education has been started.

## #10EE ePosters - Simulation

### 10EE04 (2444)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Among doctors, simulation training concerning obstetric emergencies is considered beneficial regardless of professional experience

#### AUTHOR(S):

- Marja Kaijomaa, Helsinki University Hospital Women's Clinic, Finland (Presenter)
- Outi Äyräs, Helsinki University Hospital Womens Clinic, Finland

#### ABSTRACT

**Background:** Simulation training is a safe and efficient way to learn the management of emergencies. This is of utmost importance in the field of obstetrics, where the optimal treatment of the mother or the fetus can require prompt decisions and a well-trained multi-professional team. Usually these cases are taken care of both residents (professional experience < 6 years) and senior doctors together. In this study, we wanted to analyze how the professional experience effects the experienced benefit of simulation training among doctors.

**Summary of Work:** A weekly multi-professional full-scale simulation training (FSST) concerning obstetric emergencies is organized in Helsinki University Hospital Womens' Clinic. A post-training feedback questionnaire is requested from all participants. The answers of residents and senior doctors for the following questions were analyzed: 1) I am professionally competent to treat obstetric emergencies 2) I gained professional benefit, when participating in a FSST 3) I gained professional benefit, when observing a FSST 4) I will change my actions in obstetric emergencies after this training. Answers were given on a visual scale from 0 (completely disagree) to 10 (completely agree).

**Summary of Results:** Compared to residents (n=162), senior doctors (n=136) felt significantly more competent to treat obstetric emergencies ( $5.90 \pm 1.85$  vs.  $7.33 \pm 1.50$ ,  $p < 0.001$ ). However, there was no difference in the experienced professional benefit of training or observation between residents and senior doctors ( $9.34 \pm 1.03$  vs.  $9.15 \pm 0.00$ ,  $p = 0.125$ ,  $8.38 \pm 2.45$  vs.  $8.60 \pm 2.12$ ,  $p = 0.479$ ). After the training, the intention to change personal actions in obstetric emergencies was stronger among resident doctors ( $8.57 \pm 1.67$  vs.  $8.09 \pm 2.32$ ,  $p = 0.041$ ).

**Discussion and Conclusions:** Working experience gives doctors self-confidence and the feeling of professional competence to treat emergencies. However, the incidence of emergencies per doctor is small and training is needed throughout the career. Simulation training is an efficient way of learning even among senior doctors. After training, the reported intention to change personal emergency actions is still high, reflecting the participant's experience of learning professionally important issues.

**Take-home Messages:** Simulation training is professionally beneficial even among experienced senior doctors.

## #10EE ePosters - Simulation

### 10EE05 (2470)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Enhancing student learning by Simulation

#### AUTHOR(S):

- **Ngamjit Pattaravit, Prince of Songkla University, Thailand (Presenter)**
- Orarat Karnjanawanichkul, Prince of Songkla University, Thailand
- Maliwan Oofuvong, Prince of Songkla University, Thailand
- Pannawit Benjhawaleemas, Prince of Songkla University, Thailand
- Boonthida Suwannarat, Prince of Songkla University, Thailand

#### ABSTRACT

**Background:** From the survey study in our unit, The average pre and post session SDL time for lecture were 28.2 and 40.1 minutes respectively. In this study, the investigators want to prove that simulation can enhance student to do SDL in the both pre and post session period.

**Summary of Work:** Twenty-five Anesthesia residents were enrolled in this study. Students were noticed about the simulation classes one month prior the day of practice. On the day of study, students were voluntarily separated into two groups, directed- learner and observer. After the class, three consecutive questionnaires (day 0, 30, 90) were sent to the subjects. The statistically significance in this study is classified at  $p < 0.05$ .

**Summary of Results:** The average pre-class SDL duration among the residence markedly increase after simulation session from 28.2 minutes (lecture) to 40.1 minutes. Thirteen students in the directed-learner group spent their time 120 and 129.2 minutes for post-class self study at day 30 and 90, while nine students in the observer group spent their time longer (180 and 186.7 minutes respectively). However, there was no statistically significance among the type of learners, post session SDL, knowledge retention and also level of self confidence in order to treat the real patient. Student who had high level of confidence at post-class day 90 seem to have high level of confidence at immediate post class day 0 and day 30 ( $p$ -value 0.017 and 0.01 respectively).

**Discussion and Conclusions:** Compared with the survey data, Simulation enhances the student learning process by increasing the SDL duration both in pre-post session. Sense of real situation can trigger the student to study more in order to keep the simulated patient safe. Simulation enhanced the students to do post class self-study harder, especially the students in observer group who had no chance to do practical skills to the patient. Conceptualization after experiencing from simulation is the key components to help the student to combine their knowledge and skills which lead them to improve their practice in the future.

**Take-home Messages:** Simulation introduces the sense of real situation to the student. Experiencing from the simulation class can enhance learning process.

## #10EE ePosters - Simulation

### 10EE06 (2791)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### The study of agreement between emergency physician staff and paramedic students to evaluate simulation training

#### AUTHOR(S):

- Chaipayorn Yuksen, Ramathibodi Hospital, Thailand (Presenter)
- Sorawich watcharakitpaisan, Ramathibodi Hospital, Thailand
- Nicha Cha-aim, Ramathibodi Hospital, Thailand

#### ABSTRACT

**Background:** Simulation training has become an important strategy in the field of paramedicine and is universally recognized as a potential alternative to learning through actual encounters. It has consistently been improved into an ideal approach that promotes clinical knowledge and skills of medical procedures, teamwork, developing an effective management strategy, and critical thinking under stressful conditions without putting patients at risk. Simulation training is adapted into the curriculum of Ramathibodi Hospital's Faculty of Medicine, regularly arranged under the supervision of emergency physician staff and assessed with the standardized checklist.

**Summary of Work:** Objective: This study aimed to validate the simulation evaluation of senior paramedic student compare with emergency staff evaluation with the standardized checklist. Methodology : A retrospective analytic cross-sectional study design was conducted to evaluate total of 10 paramedic simulation training scenarios. The Cohen's kappa values and agreement percentages were calculated for the agreement of the emergency staff VS senior paramedic student evaluation. Each scenario was scored according to a standardized checklist for trauma, ACLS, Toxicology and PALS situations by 3 independent raters which includes 2 senior paramedic students and an emergency physician staff.

**Summary of Results:** The Emergency staff evaluation in Trauma and ACLS standardized checklist had substantial agreement with the evaluation of 4th year paramedic student (kappa of 0.760;  $P < 0.001$  and kappa of 0.704;  $P < 0.001$  respectively) and 3rd year paramedic student (kappa of 0.820;  $P < 0.001$  and kappa of 0.882;  $P < 0.001$  respectively). But there are slight agreement in other scenario (PALS, Toxicology).

**Discussion and Conclusions:** The Emergency staff evaluation in Trauma and ACLS standardized checklist had a strong correlation with the senior paramedic student evaluation.

**Take-home Messages:** The used of standardized checklist in Trauma and ACLS scenario for paramedics training can be evaluated by senior paramedic students.

## #10EE ePosters - Simulation

### 10EE07 (2991)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Exploring Perceptions of Preparedness and Exposure to Simulation Training in Foundation Trainees

#### AUTHOR(S):

- Oluseyi Adesalu, Newcastle University, UK (Presenter)
- Clare Van Hamel, UK Foundation Programme Office, UK
- Alexander Hollis, UK Foundation Programme Office, UK

#### ABSTRACT

**Background:** In 2018, the GMC reported that only 68.6% of Foundation Year 1 (FY1) doctors feel adequately prepared for their first post. Simulation training is a commonly used educational tool for students to learn the essential skills required to be a junior doctor. This study aimed to investigate the association between FY1 doctors' perceived exposure to simulation training at medical school and feeling adequately prepared for their first foundation post.

**Summary of Work:** In 2018, an optional survey was sent to FY1 doctors in the UK during their first foundation post. 962 responses were received, 723 of which were UK medical school graduates. UK medical schools (n=32) were ranked and cross-referenced in accordance to the proportion of respondents reporting 'strongly agree' or 'agree' to the statements 'I was adequately prepared for my first foundation post' and 'I have had regular simulation training to prepare me for clinical work'.

**Summary of Results:** 72.2% (n=522) of respondents agreed or strongly agreed that they felt adequately prepared for their first foundation post. 79.8% (n=577) of respondents agreed or strongly agreed that they had received regular simulation training to prepare them for clinical work. 70% (n=7) of the top ten ranked institutions for preparedness were also in the top ten ranked institutions for perceived exposure to simulation training. 20% (n=2) of the bottom ten ranked institutions for preparedness featured in the bottom ten ranked institutions for perceived exposure to simulation training.

**Discussion and Conclusions:** Whilst greater exposure to simulation appears to be associated with increased feelings of preparedness, perceived lack of exposure to simulation does not appear to be associated with feeling less prepared for the first foundation post. For example, a medical school ranked fourth for their graduates feeling most prepared, yet 25th for perceived simulation exposure.

**Take-home Messages:** A perceived lack of simulation training does not appear to correlate with feeling less prepared for the first foundation post. This indicates that there may be more effective ways to prepare medical students for clinical work. Further research into additional educational methods and exploration of what constitutes 'regular simulation training' is required.



## #10EE ePosters - Simulation

### 10EE08 (3008)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Evidence of surgical skill acquisition for dental students taught on haptic simulator

#### AUTHOR(S):

- Parnyan Ashtari, King's College London Faculty of Dentistry, Oral and Craniofacial Sciences, UK (Presenter)
- Barry Quinn, Kings College London Faculty of Dentistry, Oral and Craniofacial Sciences, UK
- Margaret Cox, Kings College London Faculty of Dentistry, Oral and Craniofacial Sciences, UK

#### ABSTRACT

**Background:** Advances in technology assisted teaching of healthcare professionals along with concomitant increasing complexity of clinical procedures and increasing societal expectation of 'never first on a patient', means better simulated deliberate practice is required. Traditional methods of teaching clinical practice to healthcare students have limitations which are now being overcome with innovative technologies such as haptically-enabled virtual reality stimulators (HEVRS). The evidence-base though increasing, is still limited with the majority of studies focusing on laparoscopy simulation. There is now increasing evidence from the dental profession for HEVRS efficacy and affordances of the systems which offer transferable clinical skills across the healthcare team.

**Summary of Work:** Aims & Objectives: The aim was to analyse students' performance records of increasing complexity of clinical practice with the use of HEVRS (hapTEL device) and explore whether time taken on undertaking virtual clinical procedures influenced the percentage of dental tissue that was treated successfully. Methodology: Five tasks involving the removal of carious tissue from haptically-enabled simulated teeth were programmed into the hapTEL software with varying degrees of difficulty and 3-D complexity. Students were instructed to remove carious dental tissue whilst maintaining the maximal amount of healthy dental tissue. Data was retrieved for the 144 year-1 dental students at King's College London. The data was analysed using appropriate statistical tests.

**Summary of Results:** 93.75% of the cohort participated in the study and 78.31% completed all the tasks. A positive correlation was seen between the percentage of carious lesion successfully removed and a reduction in iatrogenic damage in various clinical scenarios. An improvement was seen amongst students who participated in the 2015/2016 study from the 2014/2015 study.

**Discussion and Conclusions:** Within the limitations of this study, the majority of dental students improved their psychomotor skills between sequential sessions in carious tissue removal. Differences were seen between the study results obtained from 2014/2015 and 2015/2016. An improvement in the latter was due to an increase in time provided during the sessions. Increasing practice using a HERVS increased the clinical results, namely more diseased tissue removal and less healthy tissue removal.

**Take-home Messages:** Increasing practice using a HERVS improved clinical results and the psychomotor skills of the majority of dental students.

## #10EE ePosters - Simulation

### 10EE09 (3218)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Simulation in undergraduate medical education improves self-perceived confidence in managing emergency scenarios

#### AUTHOR(S):

- Euan Fisher, NHS Ayrshire and Arran, UK (Presenter)
- Kevin Hart, NHS Ayrshire and Arran, UK

#### ABSTRACT

**Background:** Simulation is broadly accepted as a means of improving confidence in dealing with high-stakes emergency scenarios. Little work has been done however in assessing medical students' own views regarding these sessions. We therefore set out to investigate student perceptions of the educational utility of repeated simulations and their effect on overall sense of preparedness in managing common medical emergencies.

**Summary of Work:** A simulation course was designed for fourth year medical students with 6 emergency situations requiring a standardised ABCDE approach. Efforts were made to encourage realistic conditions, including peer assistants completing practical procedures and dynamic changes in patient physiology. The remainder of the group was asked to observe from behind a one-way mirror. Feedback was provided using Kolb's reflective cycle. On completion of the course, an 11 point questionnaire utilising a Likert scale was administered.

**Summary of Results:** 26 of 29 (89.7%) questionnaires were returned. 86% (n = 25) agreed or strongly agreed that the sessions identified knowledge gaps for further study. 86% (n = 25) agreed or strongly agreed that the feedback given was useful to their development. 86% (n = 25) agreed or strongly agreed that their knowledge of emergency management was increased as a result of the sessions.

**Discussion and Conclusions:** Our results demonstrate that regular exposure to a simulated clinical environment improves students' self-perceived sense of readiness for dealing with medical emergencies and is seen as a useful adjunct to their educational development. Despite our attempts to promote realism in this setting, recent evidence suggests that a 'high-fidelity' approach may actually be detrimental to performance in undergraduates. Further work should seek to explore the absolute need for realism in these sessions.

**Take-home Messages:** - Senior medical students perceive simulation to be valuable to their education and in improving their confidence in managing emergency scenarios. - Further work is needed to establish whether high-fidelity simulation in the undergraduate context is necessary in further improving the educational experience.

## #10EE ePosters - Simulation

### 10EE10 (3377)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Simulation-based training is beneficial to undergraduate students whether taking part or observing

#### AUTHOR(S):

- Kevin Hart, NHS Ayrshire & Arran, UK (Presenter)
- Euan Fisher, NHS Ayrshire & Arran, UK

#### ABSTRACT

**Background:** Simulation-based training (SBT) has been shown to increase knowledge and confidence in healthcare professionals, while protecting patients from unnecessary risk<sup>1</sup>. It is a useful teaching method in undergraduate medicine, but is resource heavy<sup>2</sup>. Many sessions for undergraduate students involve volunteers from a larger student group taking part, while the rest observe. The authors set out to identify if SBT was still of benefit if not directly taking part.

**Summary of Work:** We designed a SBT course aimed at fourth year undergraduate medical students at the University of Glasgow. This was comprised of six common medical emergency scenarios requiring a standardised ABCDE approach. Students not directly involved in the scenario observed through a one-way mirror in the adjacent room. These students were asked to take notes on their fellow students performance and feed back at the end. On completion of the course, students were asked to answer a questionnaire for feedback.

**Summary of Results:** There were 29 surveys issued and 26 returned. 85% of students agreed or strongly agreed that observing fellow students from the next room allowed them to consider how they would perform in the same situation. Additionally 77% agreed or strongly agreed that observing from an adjacent room was less stressful. Finally, 96% of the students agreed or strongly agreed that the course was enjoyable and useful for their development.

**Discussion and Conclusions:** These results show that the majority of students feel that they benefited from SBT, even if not directly taking part. Observing in a separate room to the students taking part in the simulation makes the experience less stressful. Therefore, SBT can still be delivered successfully and to students benefit despite large class numbers. Additionally students find SBT an enjoyable experience, despite not always being directly involved in the scenarios.

**Take-home Messages:** SBT can be delivered to larger groups to their benefit whether they are taking part or observing, therefore reducing resources. Having observing students in a separate room makes the experience less stressful. SBT is an enjoyable way to learn for undergraduate medical students, despite not always being involved directly.



## #10EE ePosters - Simulation

### 10EE11 (3030)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### Virtual reality simulating Dentistry Education: User experience and development of a VR Dental Training

#### AUTHOR(S):

- Alessandra Dahmer, Universidade Federal de Ciências da Saúde de Porto Alegre, Brasil (Presenter)
- Rodrigo Tubelo, Hospital Moinhos de Vento, Brasil
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- Fabrício Mezzomo Collares, Universidade Federal do Rio Grande do Sul, Brasil
- Vicente Leitune, Universidade Federal do Rio Grande do Sul, Brasil
- Susana Maria Samuel, Universidade Federal do Rio Grande do Sul, Brasil

#### ABSTRACT

**Background:** The effectiveness of information and communication technologies in dentistry teaching have been evaluated since the beginning of the last century. Among various resources available, immersive virtual reality (IVR) is shown to be a promising technology in the health teaching market.

**Summary of Work:** This study aims to describe the development of an IVR simulator for teaching students the preparation of fixed dental prosthesis, and to evaluate the user experience. Methods: The simulator was developed in three stages: content planning, device selection, and IVR simulator development. The evaluation of the user experience was performed with second-year undergraduate dental students. After they performed the IVR simulator experience, the time to accomplish each task and the number of interactions between the auxiliary and student were recorded. After the experiment, the students answered a questionnaire (17 questions, Likert scale).

**Summary of Results:** Using the Samsung Gear VR platform, an IVR simulator was developed for the preparation of a fixed dental prosthesis. The average time required to finish the IVR tasks was higher for women ( $19.98 \pm 6.67$  min) than for men ( $14.51 \pm 5.09$  min). The number of student-auxiliary interactions is positively correlated with the conclusion time of the IVR experience ( $r = 0.38$ ,  $p = 0.20$ ).

**Discussion and Conclusions:** The feedbacks of the dentistry students range between four and five items in the questionnaire, indicating a positive evaluation of the IVR simulator.

**Take-home Messages:** In regard to the motivation to study, the students believe that IVR could increase their engagement to learn.

## #10EE ePosters - Simulation

### 10EE12 (997)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Foyer C, Level 2

### High fidelity 3G simulation and virtual reality: an evaluation of medical students' experiences

#### AUTHOR(S):

- Katie Bird, Hull York Medical School, UK (Presenter)
- Alexandra Macnamara, Hull York Medical School, UK
- David Hepburn, Hull York Medical School, UK
- Thozhukat Sathyapalan, Hull York Medical School, UK

#### ABSTRACT

**Background:** Simulation is widely used in medical education, allowing students to practise a wide variety of skills, from basic clinical and communication skills, to emergency care and team working. It allows students to practise invasive, rare or important skills in a safe environment, and allows mistakes to be analysed and used as learning points, without impacting on patient safety. Simulation aims to replicate real life experiences, thus the fidelity of the simulation scenario is important. Simulation features throughout the Hull York Medical School (HYMS) curriculum. For final year students, emphasis is placed upon preparing the students for clinical practice. Paramount to this is allowing students to practise using the ABCDE approach on acutely unwell patients. Final year students undertake four simulated emergency scenarios using 3G SimMan. Student feedback has been positive, with students reporting increased confidence in dealing with acutely unwell patients. It also highlights some pitfalls with the 3G SimMan. For example the general 'look' of a patient cannot be replicated with a mannequin. Existing research suggests that complete immersion helps to improve knowledge acquisition and conceptual learning. HYMS has started to incorporate virtual reality technology into the final year simulation sessions, aiming to add an additional immerse experience that cannot be created with the SimMan alone. This study aims to evaluate the experiences of final year medical students with both virtual reality simulation and a high fidelity patient simulator.

**Summary of Work:** The project takes a quantitative approach. Participants partake in simulation scenarios in the two different modalities, 3G simulation and virtual reality, and complete a written feedback questionnaire. 24 students are involved in the study. These students are already completing simulation sessions as part of their curriculum.

**Summary of Results:** Data is currently being gathered and will be available for presentation at the conference. Numerical data is gathered from the student's responses using the Likert scale. The scores for the questions are compared between the two simulation modalities. Statistical analysis techniques, such as calculation of p values, are utilised to ensure reliability of results. In addition to this, the students' written responses will be collated and analysed.

**Discussion and Conclusions:** Dependent upon results.

**Take-home Messages:** Dependent upon results.



## #10FF ePosters - Technology Enhanced Learning 2

### 10FF01 (277)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Transition from Paper-Based to Electronic Portfolio Using On-Hand Social Medias for Undergrads: Generation Gap Perspective

#### AUTHOR(S):

- Chalinee Monsereenusorn, Phramongkutklao Hospital and College of Medicine, Thailand (Presenter)
- Piya Rujkijyanont, Phramongkutklao Hospital and College of Medicine, Thailand
- Chanchai Traivaree, Phramongkutklao Hospital and College of Medicine, Thailand
- Sangkhae Chamnanvanakij, Phramongkutklao Hospital and College of Medicine, Thailand

#### ABSTRACT

**Background:** The academic portfolio has become a key to evaluate holistic approach, mentality, ethics and professionalism for health professions. On-hand technologies and social media become a vital part of life in this century. Integration of technologies and social media into electronic portfolio aims to motivate student in creating prosperity portfolio with satisfaction and user friendly.

**Summary of Work:** Transition from paper-based into electronic portfolio by combining with Google® form to submit and compile documents in a single place with Line® application to communicate between students and teachers was initiated. Feedback from teacher was submitted by email directly to student and administrator. We conduct a study to evaluate students and teachers' satisfaction by using a questionnaire focusing in 4 domains to compare between paper-based and electronic portfolio: easy and less complex to fill up; fast and convenient; beneficial for longitudinal follow-up and easy archiving. A Likert scale from 0 to 5 was used to define levels of disagree to totally agree.

**Summary of Results:** All ninety-eight students filled and submitted portfolio electronically. On contrary, 13 of 26 teachers (50%) provided feedback electronically while the rest wrote feedback in a paper. 12 of 13 (92.3%) and 1 of 13 (7.7%) who provided paper-based feedback were age 39-53 years (generation x) and 24-38 years (generation y), respectively. 98 of the 4th year medical students (100%) and 21 of 26 teachers (80%) returned the questionnaire. Students and teachers preferred electronic to paper-based portfolio (83.7% vs 16.3% and 95.2% vs 4.8%, respectively) in 4 domains; fast and convenience ( $p < 0.001$ ), benefit for longitudinal follow-up ( $p < 0.001$ ) and easy archiving ( $p = 0.002$ ). There was no difference in the score of ease and complexity to fill up between the two groups for both students and teachers perspective. However, fast and convenience for electronic inferior to paper-based portfolio in generation x teachers perspective (2.53 vs 3.6,  $p < 0.001$ ).

**Discussion and Conclusions:** Medical students preferred electronic to paper-based portfolio. Electronic portfolio should be implemented to improve the quality of portfolio in undergraduate level. However, paper-based feedback from teachers might be provided as an option.

**Take-home Messages:** Technologies might be a good tool for reflection and feedback in portfolio assessment.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF02 (278)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### The Focused Cardiac Ultrasound skill of newly-graduated doctors: which acoustic window has the highest yield?

#### AUTHOR(S):

- Praew Kotruchin, Khon Kaen University, Thailand (Presenter)
- Panupong Damgengkajornwong, Police General Hospital, Thailand
- Kamonwan langhong, Faculty of Medicine, Khon Kaen University, Thailand

#### ABSTRACT

**Background:** Focused cardiac ultrasound (FCU) is a useful modality in emergency care settings. The FCU skill of newly-graduated doctors has not yet been demonstrated. Our objective was to assess the FCU skill of newly-graduated doctors in terms of knowledge and hands-on skills after a short training course.

**Summary of Work:** Thai doctors who had graduated within the past three months from a regional university were enrolled. The three-hour FCU training consisted of lectures and a hands-on echocardiography session including examples of parasternal short axis (PSA), long axis (PLA), subcostal (SC), pleural scanning (PS) and apical four-chamber view (A4C) were provided by the emergency physician and cardiologist. After one month, the practical skills in terms of image quality and time to diagnosis of real patients were evaluated.

**Summary of Results:** Total of 70 participants, 45.7% were male. The mean age was 24.6 years old. In terms of image quality, PSA for evaluating left ventricular (LV) structures was highest achieved at 61.4%, followed by PLA for detecting pericardial effusion (44.3%), SC for evaluating inferior vena cava diameter (37.1%) and PS for detecting pleural effusion (28.5%). The A4C had the lowest achievement (17.1%). Time to diagnosis in the LV abnormalities was shortest in PSA (15 seconds) and longest in A4C (35 seconds). A total of 87.1% of participants passed the hands-on examination in all acoustic views.

**Discussion and Conclusions:** The PSA, PLA and SC acoustic views resulted in higher quality and shorter times for training than A4C, indicating that these should be the first acoustic views for training and for using by newly-graduated doctors to evaluate the acute patients.

**Take-home Messages:** Focus cardiac ultrasound (FCU) is a useful adjunctive modality in emergency care that can be successfully trained in the fewer experienced doctors.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF03 (678)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Development and Assessment of an Interactive Neurolocalisation eLearning Tool

#### AUTHOR(S):

- Tammy Tsang, National Healthcare Group, Singapore (Presenter)
- Sheila Srinivasan, Department of Neurology, National Neuroscience Institute
- Han Kun Wang, National Healthcare Group, Singapore

#### ABSTRACT

**Background:** Neurophobia, fear of neural sciences and clinical neurology, is common among junior learners of neurology. This has been attributed to lack of knowledge and low interest. We created an interactive e-learning tool (Neurobot) to learn neurolocalisation - a systematic approach to localizing a lesion based on a patient's symptoms and signs. We assessed the efficacy by comparing it to conventional tutor-led teaching.

**Summary of Work:** We developed an initial online e-learning tool 'Neurobot', with seven clinical cases involving neurological localisation. A pilot study involved a total of 30 undergraduate medical students who tested the tool with quantitative and qualitative feedback collected. A second version of Neurobot with fifteen clinical cases was developed and used in a controlled study, involving students rotating through National Neuroscience Institute. The control arm received conventional tutor-led teaching while the intervention arm received neurological localization education via the Neuroapp. The primary outcome was the mean test scores of the students on an extended-matching (EMQ) test. Secondary outcomes include qualitative and quantitative feedback on the Neuroapp and level of neurophobia pre and post-teaching.

**Summary of Results:** In the pilot study, quantitative and qualitative feedback was positive. The controlled study had 183 students who participated in the study. Mean EMQ score for the control group was 31.69 (SD 6.74) and the Neuroapp group was 31.20 (SD 7.72) with no statistically significant difference between the two ( $p=0.673$ ). Mean neurophobia level at baseline was similar in the control group (2.2) and the Neuroapp group (2.16), (score of 1 = most neurophobic, score of 5 = least neurophobic). Post teaching, neurophobia scores improved in both the control group (2.45) and the Neuroapp group (2.45).

**Discussion and Conclusions:** The e-learning tool (Neuroapp) is not inferior to conventional tutor led teaching for the learning of neurological localization in medical students. It appears that the Neuroapp has shown to reduce Neurophobia amongst medical students alongside with conventional teaching.

**Take-home Messages:** Developing E-learning tools is feasible and non-inferior with conventional teaching. Clinicians should consider further collaborations with developers to develop e-learning tools for students.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF04 (1064)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Can Pharmacy Students Use Wikipedia as a Learning Resource? Assessment of 100 Entries on Chemotherapeutic Agents

#### AUTHOR(S):

- Aya Alsharafi, King Saud University, Kingdom of Saudi Arabia (Presenter)
- Samy Azer, King Saud University, Kingdom of Saudi Arabia

#### ABSTRACT

**Background:** Pharmacy students tend to use Wikipedia as one of their primary sources of knowledge for drug information. The aim of this work is to evaluate the accuracy of content and readability level of English Wikipedia entries on chemotherapeutic agents, using quality and readability tools.

**Summary of Work:** Using the British National Formulary (BNF-2018) and ClinicalTrials.gov we identified 188 chemotherapeutic agents. We randomly selected 100 drugs using Excel randomization program. Wikipedia was searched on the 3rd June 2018 for the selected 100 drugs and identified entries were printed out from Wikipedia. Entries were independently scored by the two researchers using modified DISCERN. The readability was calculated using an online instrument.

**Summary of Results:** The DISCERN scores had a median=24 (IQR=7.5). Of these 2% were of good quality (DISCERN 36-40), 38% were moderate (DISCERN 26-35), and 60% were poor (DISCERN 25 or less). The number of updates of entries varied from 2 to 905 (mean±SD= 209.5±189.6). Although the entries covered drug indications and side effects, there were deficiencies in routes of administration, contraindications, pharmacokinetics, and mechanisms of actions. The number of references varied from 2 to 150. Also, several problems were identified in the list of references and citations made in the articles. The readability had a mean±SD of 14.35±3.13; consistent with a readability level of college students.

**Discussion and Conclusions:** The Wikipedia entries on chemotherapeutic agents were not written for pharmacy students. While they matched expected readability level, they were incomplete and lacking important information.

**Take-home Messages:** Pharmacy students and course designers should be aware of the limitations of Wikipedia on chemotherapeutic agents.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF05 (1310)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Facebook page as a learning platform for video-based airway management education

#### AUTHOR(S):

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- Jui Shih Kao, Shin Kong Wu Ho-Su Memorial Hospital, Taiwan
- Chee-Fah Chong, Shin Kong Wu Ho-Su Memorial Hospital, Taiwan
- Li-Wei Lin, Shin Kong Wu Ho-Su Memorial Hospital, Taiwan
- Chen-Wen Lee, Dalin Tzu Chihospital, Taiwan
- Jiann Ruey Ong, Taipei Medical University Shuang-Ho Hospital, Taiwan

#### ABSTRACT

**Background:** New concepts, techniques, and devices make rapid progress of airway management in anesthesiology. Airway education is also crucial for other healthcare workers, including emergency physicians, surgeons, internists, nurses, medical students, and emergent medical technicians (EMTs). In Taiwan, airway training is less available for non-anesthesiologists and most healthcare workers are trained in advanced cardiac life support course only. We introduce a funny, creative and simulative method to effectively promote airway education.

**Summary of Work:** We developed a Facebook page 'Crazy Airway Training Lab' and created videos for spreading and sharing airway management education. From March 22, 2017 to January 28, 2019, 105 videos were released with 433946 Views, 8153 Likes and 2381 Shares. The Pearson correlation was 0.948 ( $p=0.000$ ) between View and Like and 0.687 ( $p=0.000$ ) between View and Share. 70 (66.7 %) videos were for education and others were promotional videos. Airway skill demonstration, airway equipment application, and creative airway teaching were three types of educational videos and had the median view of 4074 [IQR 2180-6568], 5353 [IQR 1761-10220] and 3143 [1751-5156] per video respectively.

**Summary of Results:** The highest view of videos was 'bag-valve mask with PEEP valve' that had 60891 views. We connected a BVM attached with PEEP valve to an endotracheal tube with a glove. The glove simulating the lung demonstrated different suspend distension when adjusting PEEP level. This video demonstrated a simple way to teach the concept of PEEP during ventilation and show its effectiveness for medical education.

**Discussion and Conclusions:** Adult learning process needs more motivate and attractive way to get involved. They have short attention span. Hence, lengths of time of the videos are within minutes, so we add fun, creation, and simulation into our airway education videos. People who review our videos are including EMTs, nurses, medical students, interns, residents and physicians from different specialty. It indicates practical clinical utility and the wide diversity of our airway education videos.

**Take-home Messages:** Spreading and sharing short, creative and simulative videos via Facebook page is an effective way for continuing airway education.



## #10FF ePosters - Technology Enhanced Learning 2

### 10FF06 (1361)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Comparison between medical students' and medical postgraduates' perspectives on Artificial Intelligence (AI) in medical fields: a multi-center survey study

#### AUTHOR(S):

- Pimpnipa Chaimongkonrojna, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand (Presenter)
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- Kullawan Chaichareonpong, Department of Family Medicine, King Prajadhipok Memorial Hospital, Chanthaburi, Thailand
- Jathurong Kittrakulrat, Khlung hospital, Chanthaburi, Thailand

#### ABSTRACT

**Background:** Recently, artificial intelligence (AI) has been introduced as potential innovation in medical field. Even though the impacts of AI in medical students have been studied, perspectives of general practitioners have not yet been analyzed. Since postgraduates have superior experiences compared to undergraduates, this study aims to compare the perspectives of medical students versus general practitioners regarding AI especially in a role of specialty preference.

**Summary of Work:** In December 2018, an internet-based questionnaire composing of demographic data, interested medical fields and various aspects on AI using 5-item Likert rating scale was designed and distributed to medical students and postgraduates from sixteen medical schools in Thailand. Once raw data was gathered, a two tailed unpaired t-test was used to test whether AI impacts on specialty selection differed between medical undergraduates and postgraduates.

**Summary of Results:** Of all 370 respondents, 324 were medical students and 46 were general practitioners. In total, the first three interested specialties were surgery, internal medicine and paediatrics, consecutively. The result showed that among medical students, 179 (55.25%) of them insisted that AI development would not change their choices of specialty (Mean = 2.46, SD = 0.50) similarly to 34 (73.91%) of postgraduates (Mean = 1.87, SD = 0.50) at p-value = 0.05.

**Discussion and Conclusions:** Although AI would potentially revolutionize medicine in the foreseeable future, our study reveals that AI impacts on specialty selection did not differ among medical students and postgraduates. This could be explained by that most respondents considered AI as an adjunctive technology instead of medical personnel substitution.

**Take-home Messages:** Overall, both medical undergraduates and postgraduates felt that AI would be a challenge in the near future.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF07 (1523)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Mobile touch screen Eye Simulator to help students learn examination of External Ocular Muscles

#### AUTHOR(S):

- Tim Wood, Western University of Health Sciences, USA (Presenter)
- Sunami Chun, Western University of Health Sciences, USA

#### ABSTRACT

**Background:** Examination of the external ocular muscles begins with the clinician asking the patient to use their eyes to follow the clinicians fingers while a shape is outlined (an H shape or basic rectangle). Health professions students can easily mimic the examination movements and perform it competently on peers during practice and assessment sessions without actually being able to interpret the specific EOM deficits/pathologies.

**Summary of Work:** A 3D Eye Simulator was created using the Unity platform with the help of faculty primarily from the College of Health Sciences and the College of Optometry. The app was translated into iOS and Android versions for use on mobile devices with a touchscreen interface. The app was distributed to health professions students at Western University of Health Sciences during pre-clinical education.

**Summary of Results:** Students and faculty reacted favorably to the app and said it increased the amount of time they engaged with and studied the material. Students also indicated they would be likely to access the app during clinical training to help review the EOM exam and associated pathologies.

**Discussion and Conclusions:** The ability to reproduce specific EOM pathologies that a peer or standardized patient cannot reproduce is a powerful tool to aid students in the physical examination process of EOMs. It also gives them the opportunity carry the mobile device to clinic where they can continue to practice under relevant conditions and simulate findings they may see with patients to help further understand EOM pathologies.

**Take-home Messages:** Using an Eye Simulator on a touch screen mobile device increases the amount of time students spend engaging with and studying the EOM exam and increases the likelihood of understanding EOM pathology.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF08 (1606)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Digital scholarship: A pilot project for knowledge production in medical education in the digital age

#### AUTHOR(S):

- **Pierre Drolet, Université de Montréal, Canada (Presenter)**
- Ilian Cruz-Panesso, Université de Montréal, Canada
- Tanoubi Issam, Université de Montréal, Canada
- Julie Grandmaison, CAE, Canada
- Sebastián Arel, Université de Montréal, Canada
- Ahmed Moussa, Université de Montréal, Canada

#### ABSTRACT

**Background:** In the last ten years, social media have increased opportunities for creating healthcare virtual networks that support community-oriented dialogues. However, there is still a lack of consideration of what and how social media help participants to transcend the role of consumers to producers of content and knowledge of social networks. Understanding of these questions is the first step for conceptualizing new forms of producing knowledge and generating scholarship in a digital age.

**Summary of Work:** We designed a theory-driven bundle of social web technologies with the purpose of promoting different levels of participation and knowledge building that go from understanding, comprehension, to analysis and creation. Facebook, Twitter, LinkedIn, YouTube and Edmodo platforms were conjointly used to present a virtual community in medical education with innovative research, faculty development activities, and soon to come scholarly driven debates aimed at fostering social-media scholarship in simulation and medical pedagogy. Principles of communities of practice and active learning theories are at the base of the technology interaction framework that supports this initiative.

**Summary of Results:** Alternative metrics, known as 'almetrics', used to measure the impact of digital scholarship will be presented. These metrics focus on social media reach of scholarly works. This study will build upon reach measures such as pageviews and mentions on academic social sites, blogs, Facebook, Twitter. Regression analyses are used to identify which of these metrics correlate strongly with variables of active learning and community of practice such as knowledge building, knowledge sharing, and access to expertise.

**Discussion and Conclusions:** In this paper, we argue that theory-driven social media pushes a reconceptualization of scholarship beyond traditional ways of creating knowledge.

**Take-home Messages:** We contend that a new generation of social scholars pushes educators and learning designers to propose opportunities and tools for democratization of knowledge and democratized access to expertise. Difficulties for shifting from traditional to innovative ways of scholarship will be presented. More specifically, issues related to collaboration, copyright and standards for evaluating digital scholarship.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF09 (1706)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Application of computer vision and artificial intelligence in clinical skill training

#### AUTHOR(S):

- Ching-Ju Shen, Kaohsiung Medical University Hospital, Taiwan (Presenter)

#### ABSTRACT

**Background:** The maturation of a medical doctor takes not only acquiring textbook knowledge, but more importantly the ability of procedural competency and professionalism acquisition. Moreover, modern medical care involves an array of monitoring and imaging modalities to optimize disease management and patient safety. These factors make clinical skill training more essential than ever before. Effective learning requires proper and timely feedbacks during purposed practices, so that trainees can improve themselves each time. Although many simulators are available with the same aim, they are costly and specific to some surgical techniques, such as laparoscopy and endoscopy, which might not pertain to medical student's needs of basic clinical skills practice.

**Summary of Work:** To build a training program that integrates computerized visual analysis and artificial intelligence (AI). The program can provide assistance to trainers' existing teaching protocols or become a trainer itself with demonstration, evaluation and feedbacks if the trainees choose to learn independently. The study utilizes quasi-experimental design, where the two learning styles were led by 1 to 2 instructors in 10 sessions each for a total of 120 trainees. Structured interviews and questionnaires were given to both the trainees and the instructors to assess their thoughts about AI-assisted learning program and their preference between AI-assisted learning or traditional learning. In particular, whether or not AI-assisted learning affects trainees' motivation and learning outcome is investigated; instructors' input about this AI-assisted learning program is also collected.

**Summary of Results:** The project investigates trainees' learning motivation, effectiveness and subjective perception about this novel learning model. This system facilitates personalized need of learning, and increased learners engagement, motivation, and independence.

**Discussion and Conclusions:** The technology influences the medical industry deeply and improves the way teachers run their classrooms. Using AI systems, students can learn independently and in relatively judgment-free environment. Educational programs powered by AI are already helping students to learn basic skills.

**Take-home Messages:** AI-assisted medical education is growing rapidly, it will likely offer students a much wider range of services.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF10 (2101)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Ultrastructural images as interactive tools to increment cell biology learning

#### AUTHOR(S):

- Paula Ludovico, School of Medicine, University of Minho, Portugal (Presenter)
- Belém Sampaio-Marques, School of Medicine, University of Minho, Portugal

#### ABSTRACT

**Background:** Students are often asked to describe and to interpret textbook model cells and organelles representations misinterpreting the real structure as well as their spatial organization. In class study of cellular ultrastructure is demanding, but constitutes a major challenge for faculty, to find efficient and effective ways to impact on students' approaches to learning.

**Summary of Work:** The aim of this work was to develop an interactive class activity to promote student's comprehension on different types of cellular organization and also on cellular ultrastructure for the 1st curricular year medical students. For that, students in groups, about 5-6 students per group, are challenged with transmission electron microscopy (TEM) images. These images correspond to prokaryotic and eukaryotic cells and include different amplifications of diverse organelles. Students are requested to identify as much cellular structures as they can during 90 minutes. At the end, the groups shared and discussed with the entire course their findings concerning the type of cellular organization and cellular ultrastructure present in each image.

**Summary of Results:** Teacher's perception is that students get really excited by their own findings on the real cellular ultrastructure. Students refer that finally they understand the diversity and spatial structure of cells and this is challenging way to understand cell biology.

**Discussion and Conclusions:** The introduction of students to TEM images is suggested to promote student's motivation and learning of cellular ultrastructure anatomy. This type of activity seems to improve educational efficiency, promoting critical and creative thinking, and incrementing the cell biology learning.

**Take-home Messages:** This interactive activity allows demystifying the common representative cell schemes and inter-organelles relationships and spatial organization. Students are able to learn with this in class interactive activity the diversity of intracellular organization that is often lacking in the textbooks.



## #10FF ePosters - Technology Enhanced Learning 2

**10FF11** (2920)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### YouTube Videos as a Tool for Faculty Development in Medical Education: A Learning Analytic Overview

#### AUTHOR(S):

- **Mohammed Hassanien, Fakeeh College for Medical Sciences, Saudi Arabia (Presenter)**
- Rasha Ahmed Aboukamer, King Abdulaziz University, College of Medicine, Medical Microbiology and Parasitology Department of Biology, Saudi Arabia

#### ABSTRACT

**Background:** Faculty development (FD), has become an increasingly important component of medical education. The use of online tools offers many advantages for faculty development, and can help overcome the numerous obstacles that challenge classic educational activities. Video-based lectures (VBLs) are one of the tools of online learning. The aim of this study was to describe the author's experience in developing VBLs to be used as a tool for faculty development by using Learning Analytics (LA) which is the metadata provided by YouTube, which was the sharing platform used for the author's videos.

**Summary of Work:** A total of 19 VBLs relevant to the education of healthcare professionals was produced with the software program ScreenFlow. The collected and analyzed data consisted of viewership data, descriptive and data related to viewers' engagement. For evaluating audience retention and measuring how well videos maintained viewer attention, the following information was included: average view duration for all videos on the channel, the average percentage viewed of each video, and the final audience retention.

**Summary of Results:** Both the demographic and descriptive data revealed an acceptable level of accessibility of VBLs. Regarding viewers' engagement, the total number of videos' likes, shares, and comments, which are 203, 215 and 21 respectively. In terms of the audience retention data, the longest video, had the lowest final audience retention, while the shortest video, had the highest final audience retention.

**Discussion and Conclusions:** LA facilitates the evaluation of the acceptability, accessibility, and audience retention of VBLs, the number of views reflects the acceptability, the number of likes/dislikes and shares reflects audience engagement. Average view duration, average percentage viewed, and final audience retention are indicators of audience retention. Finally, it appears that the length of VBLs has a profound effect on AR, as shorter VBLs are associated with greater AR, and vice versa.

**Take-home Messages:** VBLs can be considered a valuable tool for faculty development in medical education that effectively overcomes many common challenges related to it. A variety of software programs and applications are available that facilitate the process of VBL production, with accessibility of many video-sharing platforms, such as YouTube. LA is an emerging and effective method of quantitatively evaluating VBLs. Synchronous interaction with speaker should be considered in VBLs to enhance its effectiveness and improve the AR.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF12 (3114)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Ultrasound: the future of anatomy teaching?

#### AUTHOR(S):

- Rosie Conroy, School of Medicine, University of Central Lancashire, UK (Presenter)
- Gerard Browne, School of Medicine, University of Central Lancashire, UK
- Nasir Hameed, School of Medicine, University of Central Lancashire, UK
- Andrew Ginty, School of Medicine, University of Central Lancashire, UK

#### ABSTRACT

**Background:** Ultrasound imaging is increasingly being introduced into the undergraduate medical curriculum to support the learning of clinical anatomy (Wakefield, et al., 2018). The best approach and the extent to which ultrasound teaching should be integrated throughout the undergraduate curriculum in the UK is widely debated (Wakefield, et al., 2018) (Walrod, et al., 2018)). It is well recognised that there is an increasing need for foundation doctors to be proficient in the skill of ultrasound. Could the introduction of ultrasound within gross anatomy teaching provide a way to give medical and healthcare students fundamental ultrasonography skills that will enhance their clinical examination skills and will be of benefit post-graduation?

**Summary of Work:** In this eposter we set out to examine the evidence base supporting the use of ultrasound imaging as part of routine undergraduate medical teaching and from this to examine if there is a role for this technology in teaching anatomy to early years medical students.

**Summary of Results:** We will present our school's strategy to integrate ultrasound imaging into early year's anatomy teaching. In doing this we will examine 5 key factors from current literature which are integral in aiding successful implementation of ultrasound as an adjunct technology to the current anatomy sessions (Wakefield, et al., 2018) (Walrod, et al., 2018).

**Discussion and Conclusions:** We anticipate that incorporating ultrasound into anatomy teaching for early year students will enhance their applied knowledge, interest in imaging and diagnostic confidence as well as providing an introduction to fundamental imaging skills. However, with the ever-increasing demands on students to be competent in a diverse range of subjects in years one and two of the course, we should be mindful that there is the potential to overburden learners.

**Take-home Messages:** The integration of ultrasound imaging as part of anatomy teaching and learning offers an opportunity to enhance anatomical education and build imaging skills for undergraduate students.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF13 (2824)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Interdisciplinary Learning Curriculum in Making a Virtual Reality Game for Daily Lives Training in Children with Autism Spectrum Disorder

#### AUTHOR(S):

- Chung Pei Fu, Fu Jen Catholic University, Taiwan (Presenter)
- Chih Chia Wang, Department of Family Medicine, Tri-Service General Hospital, National Defense Medical Centre, Taiwan
- Chia Ting Su, Department of Occupational Therapy, College of Medicine, Fu Jen Catholic University, Taiwan

#### ABSTRACT

**Background:** The interdisciplinary learning is an approach that integrates multiple disciplines to solve a problem. The purpose of this study was to develop an interdisciplinary learning curriculum for the students of the department of occupational therapy (OT) and the students of the department of information management (IM), and to examine the qualitative and quantitative learning outcomes.

**Summary of Work:** We developed a 5-stage, 18-week, interdisciplinary learning curriculum. Nine students of OT and four students of IM participated in this curriculum. The theme of this curriculum was to integrate the knowledge of OT and IM, and to make a virtual reality (VR) game for daily lives training in children with autism spectrum disorder (ASD). In the professional development stage, 6 weeks, the students of OT reviewed the literature and wrote VR game scripts for the daily lives training in children with ASD. The students of IM learned to make a VR game by using Unreal engine. In the interdisciplinary teaching and learning stage, 2 weeks, the students shared the professional knowledge to those of the other department by using oral presentation and discussions. In the team building stage, 1 week, students of the two departments built a team. In the interdisciplinary collaboration stage, 8 weeks, all the students cooperated to make a VR game for daily lives training in children with ASD. In the final presentation stage, 1 week, students took the VR game to participate in the competition.

**Summary of Results:** Most of the students thought that this curriculum increased the learning motivation (77.8%) and the practical experiences (88.9%). They reported that this curriculum improved their active learning, critical thinking, collaboration, creativity, innovation, and problem-solving abilities. The students of IM thought that their technology could be applied to medical fields. The students of OT thought that their dreams of making a VR game for daily lives training in children with ASD could be come true. Their VR game also got the first prize of the 2017 International ICT Innovative Services Awards.

**Discussion and Conclusions:** The interdisciplinary learning increased students' active learning, critical thinking, collaboration, creativity, innovation, and problem-solving abilities.

**Take-home Messages:** The interdisciplinary learning is a helpful strategy in medical education.

## #10FF ePosters - Technology Enhanced Learning 2

### 10FF14 (566)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Crystal Lounge, Level 1

### Eyes cannot see what the mind doesn't know: Tracking perceptive errors among the radiology trainees

#### AUTHOR(S):

- Dinesh Chinchure, Khoo Teck Puat Hospital, Singapore (Presenter)

#### ABSTRACT

**Background:** Errors in medical practice are a known and important cause of patient harm. Imaging studies are an ever increasing tool to help clinician arrive at correct diagnosis. Thus incorrect image interpretation also accounts for these diagnostic errors. Regular review and discussion of these errors is an important quality improvement strategy.

**Summary of Work:** The audit of independently reported imaging studies by radiology trainees was performed in our department periodically. The errors were classified as major or minor error based on its potential to affect patient management. The errors were also broadly classified as perceptive errors and cognitive (interpretive) errors. Perceptive errors are discussed in this presentation with illustrations and examples.

**Summary of Results:** During the audit, errors were noted and classified. Perceptive errors are commoner among trainees. Feedback was given to the trainees to close the loop and additional training was organized if necessary. The error rates for trainees were tracked. If any particular learning issues are identified, focused teaching was arranged and training curriculum was modified accordingly. Discrepancy meetings where discussion of these anonymized cases where errors had happened were well attended and liked by all the staff.

**Discussion and Conclusions:** Errors of perception occurs when an abnormality on image is not noticed by reporting radiologist during the first interpretation. This is more common among radiology trainees in the initial phase of training when 'the eyes fail to see what the mind doesn't know' due to lack of adequate knowledge. Errors of perception can also occur in senior radiologists due to other causes such as fatigue and 'satisfaction of search'. Discrepancy meeting where errors are presented and discussed anonymously is an effective tool to improve performance and well-liked by all.

**Take-home Messages:** Perceptive errors are common especially in early years of training. Periodic audit and review, not only helps an individual trainee to improve his/her performance but also rest of the radiologists to learn from others mistakes. Thus audit and discrepancy meetings are effective quality improvement strategies and overall help to improve patient outcome.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG01 (617)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Patients as educators: Endocrine senior residents (SRs) in the management of Type 1 Diabetes Mellitus (T1DM)

#### AUTHOR(S):

- Cherng Jye Seow, Tan Tock Seng Hospital, Singapore (Presenter)

#### ABSTRACT

**Background:** Management of T1DM is extremely complex but emphasis in the local Endocrine training curriculum is lacking. There is concern SRs may be ill equipped to manage patients confidently.

**Summary of Work:** A survey was sent to 19 SRs assessing their experience and confidence in managing T1DM, their confidence level in interpreting technological tools used in T1DM management and their views on the role of a structured T1DM education module in the local curriculum. The SRs were subsequently rostered to attend T1DM patients' education workshops as a pilot trial and their knowledge and confidence level reassessed.

**Summary of Results:** More than 80% of SRs have only managed <10 T1DM patients. 64.7% of trainees were very or somewhat unconfident in managing T1DM, and this increased to 88.2% and 82.4% in relation to T1DM patients who exercise and who were pregnant respectively. Most trainees had minimal experience managing patients on continuous glucose monitoring or insulin pumps, and were unfamiliar with interpreting an ambulatory glucose profile. Many felt that the management of T1DM was not adequately taught in the local curriculum and that a structured T1DM education program would be beneficial. SRs were then rotated to attend T1DM patients' education workshops which were held regularly in our hospital. There are a total of 4 workshops, focusing on different aspects such as learning how to carbohydrate count, troubleshooting problems, exercising safely and coping with burnout. The patients and caregivers shared their challenges and the SRs acted as facilitators and tried to troubleshoot problems with the diabetes consultant as moderators. Feedback from the SRs were positive, that the knowledge garnered were very practical and they enjoyed this modality of learning much more than didactic teaching. Confidence level also increased.

**Discussion and Conclusions:** Results from our pilot study revealed that patients as educators work in the management of an extremely complex condition such as T1DM.

**Take-home Messages:** Greater emphasis should be placed on T1DM management in the local Endocrine curriculum and patients as educators is an effective way in improving knowledge in this field.



## #10GG Posters - Patient as Educators/Patient Safety

### 10GG02 (1084)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Patient Inputs Beneficial in Evaluating a Resident's Communication Skill During the Residency Training

#### AUTHOR(S):

- Jiratha Budkaew, Khon Kaen Medical Education Center, Khon Kaen Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** The patient's experience reflects physician interpersonal and communication skills. Our objective was to evaluate the Family Medicine (FM) residents by using a patient assessment tool for communication skills during a home visit.

**Summary of Work:** We conducted a field test in the primary care settings affiliated with Khon Kaen Hospital. The evaluation was made using the 11-item self-administered tool (Cronbach's alpha = 0.87) to identify communication skills of FM residents during the home visit. The skills were rated by community nurses, pharmacists, patients and themselves. Resident reflections on patients' feedback were collected and analyzed.

**Summary of Results:** Fourteen residents, 28 patients, 4 community nurses, and 2 pharmacists participated in the field test. The average satisfaction scores by patients, colleagues, and self-assessment were 72.3%, 70.2%, and 72.3%, respectively. Treating patients with respect (71.2%), a cordial greeting (70.5%), and encouraging questions (69.8%) were a top three item rated by patients, colleagues, and self-assessment. Involving patient in decision making was the lowest rated item by patients, whereas expressing empathy was the lowest rated by colleagues and self-assessment. The overall percentage of items scored as satisfaction was significantly varied based on the training year ( $P=0.035$ , test for trend). Residents mostly reflected that patient assessment was beneficial for their learning and practicing communication skills and patients' feedback enhanced their confidence in these skills.

**Discussion and Conclusions:** The patient could help to assess residents' communication skills concurring with healthcare providers and resident's self-assessment.

**Take-home Messages:** The patient could be a good asset for evaluating communication skills and facilitating residency training.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG03 (78)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### “My patients are not educational menus”: The effect of using student reflective narratives to observe dignity and respect for patients’ rights in clinical education

#### AUTHOR(S):

- Hoda Ahmari Tehran, Qom University of Medical Sciences, Iran (Presenter)
- Ahmad Kachoeie, Qom University of Medical Sciences, Iran
- Mahdi Ghassabi Chorsi, Iran University of Medical Sciences, Iran
- Saeed Madani, Qom University of Medical Sciences, Iran

#### ABSTRACT

**Background:** Research show that stress in medical students leads to burnout and loss of respect for patients’ rights. These declines in mood and malpractice worsen in the internship period. On the other hand, literature reviews have addressed the importance of reflective practice in the education. This study investigates the effect of using student reflective narratives to observe dignity and respect for patients’ rights in clinical education

**Summary of Work:** A mixed method research based on reflective learning theories( Gibbs reflective model)was conducted during 12 months using 48 intern students.In a quasi-experimental study, these students were randomly categorized as either intervention or control. Only in intervention groups, Students were allowed to talk to the patients and ask them if they have properly respected the patients’ right and dignity. Then, students were to reflect on their performances. In the first week, a pretest was conducted in both groups. Intervention group received reflective education and reflection writing in the second and the third week. And in the last week a post-test was conducted among both groups. To explore students perception of effectiveness of reflecting on their performance, a qualitative content analysis was conducted which included 12 semi-structured interviews and 144 reflection notes.

**Summary of Results:** Mean scores of students’ performance of respect for patient in experimental group was improved significantly in post-test ( $12.32 \pm 1.21$ ) compared to pretest ( $9.85 \pm 1.39$ ) ( $p < 0.05$ ). Independent t- test implied that the difference of post test scores in two groups was significant ( $P = 0.01$ ). Of Interviews, four main themes emerged: improving empathy and understanding the feelings of patients, paying attention to the patients’ humanistic dimensions, respecting the autonomy and rights of the patients, and promoting interpersonal communication skills.

**Discussion and Conclusions:** This study showed the emotional effects of reflective narrative writing interventions on medical students for observing dignity and respect for patients rights. It is recommended to use students’ Reflective Narratives in this area.

**Take-home Messages:** Using real patients in various settings is an invaluable part of learning the art of medicine, as it enables students to apply learning to the real world. However, We must not forget that patients are human beings with feeling and their rights and dignity should be respected.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG04 (708)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' Learning Outcomes of Patient-Centered Home Care facilitated by Village Health Volunteer as Educator

#### AUTHOR(S):

- Chanat Kanchit, Medical Education Center, Ratchaburi Hospital, Thailand (Presenter)
- Sudarat Wijitsetthakul, Medical Education Center, Ratchaburi Hospital, Thailand
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- Anon Sathapornsathid, Medical Education Center, Ratchaburi Hospital, Thailand

#### ABSTRACT

**Background:** Patient-Centered Home Care (PCHC) is a comprehensive care approached by multidisciplinary team including family physician, nurse practitioner, physical therapist and village health volunteer (VHV). The VHVs are also the patients obtain high health literacy, so they can facilitate medical students for PCHC as educators. This study aims to evaluate the student's learning outcomes of PCHC facilitated by VHV.

**Summary of Work:** This study was conducted for the total of 32 fourth-year medical students in November and December 2018 at Family Medicine department, Medical Education Center, Ratchaburi Hospital, Thailand. Four students per group approached PCHC facilitated by VHV as educator for once a week by two months. All VHV were patients with non-communicable diseases treated by Family physicians in Ratchaburi Hospital and were trained to care the patients in community with PCHC program. Student's learning outcomes regarding three domains of knowledge, attitude and skill toward PCHC were determined by 12 multiple-choice questions in summative evaluation, questionnaire with 5-point Likert scale and home care rubrics respectively. Reliability of assessment tools including attitude and skill were 0.813 and 0.876, respectively.

**Summary of Results:** A total of 32 medical students participated in PCHC facilitated by VHV. All students passed in minimal passing level of knowledge and skill with the percent scores of  $70.3 \pm 10.6$  and  $86.9 \pm 7.9$ , respectively. Attitude toward understanding PCHC was improved from the percent scores of  $56.9 \pm 14.5$  to  $78.1 \pm 9.3$  ( $p < 0.001$ ).

**Discussion and Conclusions:** Patient, role of VHV, as educator could promote medical student's learning outcomes because of high health literacy; the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. However, they could facilitate the students to approach good PCHC. The strengths of this program were inter-professional education and effective learning. In case of none VHV in some country, the caregiver or care-manager can take the role of educator.

**Take-home Messages:** The patient can be a good educator. They were provided medical knowledge, patient-centered attitude and home care skill by medical educator, and transfer all of integrated knowledge, attitude and skill with their experiences absolutely to medical students.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG05 (2125)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### National Advance Care Planning Educational Workshop for Healthcare Professionals in Taiwan: Using Learning Science with 3 Levels of Course Design

#### AUTHOR(S):

- Wei-Min Chu, Department of Emergency Medicine, Taichung Veterans General Hospital, Taiwan (Presenter)
- Wei-Chun Lin, Department of Oncology, Chi Mei Medical Center, Liouying, Taiwan
- Shih-Chun Ho, Palliative Care Center, Chi Mei Medical Center, Taiwan
- Yi-Yin Lin, Hospice Foundation of Taiwan, Taiwan
- Chao-Huei Chen, Center for Faculty Development, Taichung Veterans General Hospital, Taiwan

#### ABSTRACT

**Background:** In Jan 2019, Taiwan has officially approved Patient Autonomy Law (PAL) which allows all citizens in Taiwan to make advance decision (AD) for 5 critical conditions. According to the law, all citizens wish to make an AD must go through official advance care planning (ACP), which will be held by certified healthcare professionals (HCP). Thus, several national ACP educational program were arranged to train future ACP professionals. Our ACP educational program was designed based on learning science that made participants learning by going through three levels: encoding, consolidation and retrieval.

**Summary of Work:** The course was designed as 4-hours workshop and the concept was 3 levels of structure, including the first level Encoding (1 hour): Introduction of PAL and ACP with making practices by given specific situation in small groups; The second level Consolidation (1 hour): Practicing self ACP by pairs of two to fill the full AD form and to understand the difficulty of choices. The third level Retrieval (2 hours): Situational role-play in large groups, some participants would be appointed as HCP, others would be appointed as patient and family. They went through the simulational ACP process and completed patient's AD.

**Summary of Results:** In 2018, 14 courses were held. Totally 1247 HCP completed training, including 263 physicians, 641 nurses, 243 social workers, 79 psychologist and 21 other professionals. We collected all participants' feedback after each course. The average score of course design assessment was 97.3%; The average score of program content assessment was 98.0%; And the average score of teacher assessment was 96.8%.

**Discussion and Conclusions:** The key elements for a successful ACP educational workshop are: 1. Level by level course design based on learning science. 2. Using different grouping method ( either small group or large group) to fulfill the goal of learning. 3. Teacher's experience in problem solving, guidance and fast response during teaching.

**Take-home Messages:** 3 levels of course design based on learning theory helped HCP learn more efficiently and with more competency in future ACP. We believe that learning theory could also be applied to different aspect of medical educational workshop in the future.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG06 (422)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Entrustable procedural skill teaching to improve patient safety

#### AUTHOR(S):

- **Adisak Tantiworawit, ChiangMai University, Thailand (Presenter)**
- Parichat Salee, ChiangMai University, Thailand
- Atikun Limsukon, ChiangMai University, Thailand
- Pattraporn Tajarennmuang, ChiangMai University, Thailand
- Nuntana Kasitanon, ChiangMai University, Thailand
- Chalerm Liwsrisakun, ChiangMai University, Thailand

#### ABSTRACT

**Background:** Insertion of a central venous catheter (CVC) is a procedure which may cause morbidity in patients. Our hospital has experienced a high complication rate. The method of teaching this procedure was reviewed and updated with a key aim being patient safety. This skill development has been termed the entrustable approach.

**Summary of Work:** The model of apprenticeship teaching by a senior resident was changed to a systematic approach involving 3 steps. Step 1: Resident completed a course of self-study followed by a video demonstration. This step aimed to encourage the learner to self-assess, review the basic concepts, consider indication-contraindication and complications. Step 2: A procedural work shop. The residents attended a group workshop in the clinical skill center. An experienced teacher shared best practice of the CVC procedure using a manikin to demonstrate, explain and model the different steps. This was followed by a group discussion. After discussion the residents carried out the procedure on the manikin. Step 3: Clinical practice under supervision. The residents practiced CVC insertion on a patient under supervision. The final step is critical in ensuring the learner is entrusted by the teacher to perform this procedure safely.

**Summary of Results:** Student not only learnt the procedural skills, but also showed increased awareness of the concept of patient safety. There was a 100% pass rate by the residents in step 1 and 2 however only 86% of residents passed step 3. In the final step the issue of patient safety was the most concerning. Following the implementation of this sharing best practice teaching method the complication rate has decreased by 57% in the department.

**Discussion and Conclusions:** The widely used concept of “See One, Do One, Teach One” to enable the acquisition of procedural skills needs to be reconsidered and in many cases discarded. We have demonstrated a method for effective procedural skill teaching using CVC insertion. Various teaching methods can be used to promote effective learning, the methods being appropriate to all learner styles.

**Take-home Messages:** This entrustable systematic teaching method not only promotes learner success but also results in improved patient safety.



## #10GG Posters - Patient as Educators/Patient Safety

### 10GG07 (2998)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Continuous Improvement of Patient Safety and Teamwork Through In Situ Simulation Training in Cardiopulmonary Resuscitation

#### AUTHOR(S):

- Wan Ting Wu, Taipei Hospital, Taiwan (Presenter)
- Hsing Chien Wu, Taipei Hospital, Taiwan
- Jiin-Chyr Hsu, Taipei Hospital, Taiwan
- Ping-Hsun Yu, Taipei Hospital, Taiwan
- Li Zhen Tsai, Taipei Hospital, Taiwan

#### ABSTRACT

**Background:** Cardiopulmonary resuscitation (CPR) is one of the complex and time-critical endeavors in the hospital. CPR requires seamless coordination; even one-minute CPR delay or a tiny flaw could be fatal. In order to perform effective rescues, professionals suggested that healthcare providers consistently take CPR training. Experts have indicated that teamwork and leadership training can enhance rescue performances by reducing human errors. In situ simulation is a physically integrated into the clinical environment, provides a method to improve reliability and safety in high-risk areas.

**Summary of Work:** In order to continuously monitor the quality of simulation training, we revised the training program last year. After the pre-test of instruction, the research introduces first aid situation simulation training, including watching videos, discussion and debrief. Our training program includes team training and Advanced Cardiac Life Support. The team training program was modified from China Airlines and TeamSTEPPS materials. The training program was designed based on a simulation scenario of CPR clinical adverse event. 7 sessions of training were conducted in May to December, 2017, and 9 sessions of training were conducted in March to December, 2018. At the end of each training session, a score of the participants' overall performance was given by the instructors.

**Summary of Results:** The results indicate that the overall performance of the participants was improved, with an increase of 45.85 % from the first session (56.45%) to the last one (86.12%). Moreover, most participants demonstrated positive attitude toward the training with the scores of satisfaction increased from 85% to 94%. Lastly, positive gains were also found in teamwork climate (56.4% to 73.5%), safety climate (64.1% to 65.7%), job satisfaction (62.7% to 64.6%).

**Discussion and Conclusions:** Successful CPR relies both on skilled individual rescuers and effective teamwork. In situ simulation provides a learning opportunity for a controlled clinical practice without putting patients or others at risk. This approach may help improve the effectiveness and impact of the training programs. In the future, teamwork concepts should be introduced to healthcare professionals. We will continue to monitor and analyze the outcomes. We suggest early implementation of team technique to improve safety climate and care quality.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GGo8 (3041)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Quality and Patient Safety Linked to Healthcare across Middle-Eastern and Asian Countries: A Systematic Review

#### AUTHOR(S):

- **Maha Hameed, AlFaisal University, Saudi Arabia (Presenter)**
- Anam Yousuf, AlFaisal University, Saudi Arabia
- Sara Ahmed, AlFaisal University, Saudi Arabia
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- Noora Rameez, AlFaisal University, Saudi Arabia
- Amal Saadallah, King Faisal Specialist & Research Centre, Saudi Arabia

#### ABSTRACT

**Background:** A paucity in literature regarding comprehensive reviews of healthcare quality and safety status has been noted. The aim of this systematic review is to evaluate this status amongst Middle-Eastern and Asian countries.

**Summary of Work:** A systematic research of itemized healthcare services was done including Middle-Eastern and Asian countries. Google and PubMed database were used, with 208 scholarly publications filtered according to government and international collaboration, patient involvement, adverse events/compliance/medical errors, and category focus on which of healthcare professionals focused on.

**Summary of Results:** 10 out of 15 Middle Eastern and 4 out of 6 Asian countries had governmental involvement, while 10 out 15 Middle-Eastern and 5 out of 6 Asian countries had international organization collaboration.

5 out of 15 Middle Eastern, and 5 out of 6 Asian countries included patients' involvement.

11 out of 15 Middle Eastern, and 5 out of 6 Asian countries reported adverse effects.

12 out of 15 Middle Eastern countries involved more nurses/nursing students, while 5 out of 6 Asian countries involved residents/physicians more.

**Discussion and Conclusions:** Bahrain had higher governmental involvement while the countries Egypt, UAE and high-risk countries Syria and Yemen had focus by international organizations.

Iran is the Middle-Eastern country having most influence in patient safety culture, reporting the most adverse effects, patient and healthcare professionals involvement.

More than half the Asian countries displayed governmental or international contributions, Singapore being most for governmental. Meanwhile, Vietnam was the only Asian country that did not involve international organizations collaboration.

**Take-home Messages:** More attention is needed towards patient and healthcare professionals involvement in healthcare quality and safety amongst Middle-Eastern and Asian countries.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG09 (3379)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning-needs focused hands-on workshops on Chest Drain insertion and post-insertion Chest Drain management: How we improved the identified patient safety issues in our hospital

#### AUTHOR(S):

- Catherine Russell, University Hospital Ayr, NHS Ayrshire and Arran, UK (Presenter)
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#### ABSTRACT

**Background:** Intercostal Chest Drain Insertions (ICD-I) are the most invasive medical clinical procedures. After the NPSA (2007) alerted ICD-I associated morbidity and mortality, NHS organisations made concerted efforts to improve ICD-I training for medical trainees in simulated setting. Subsequent practical training remains opportunistic. In our practice, we noticed: a) Patient selection for ICD-I is often sub-optimal b) Much of the complications and morbidity occurs post-ICD-I and c) Junior doctors (JD) have limited knowledge and confidence in managing chest drains post-ICD-I. We set out to understand the range of ICD-I and post-ICD-I management (P-ICD-I-M) skills in our hospital, with a view to organising hands-on workshops to address any learning needs identified. We share our experience.

**Summary of Work:** Doctors of all grades and specialities at the University Hospital Ayr were invited to complete an anonymous on-line survey: <https://goo.gl/forms/c3CHq1YRn2Ua1sDs2> The results informed the programme design of five 4-hour hands-on ICD-I and post-ICD-I management workshops delivered to JD between June and December 2017. Accordingly, focus of the workshops was weighted towards decision making (patient selection and P-ICD-I-M). We assessed our effectiveness through a) Participants' feedback and evaluation b) By repeating the on-line survey and c) By auditing case note documentation of ICD-I's in the 12 months following the workshops.

**Summary of Results:** Workshop evaluation: 100% of participants rated the workshop as Excellent overall. 60 responses to the online survey were received. Post course improvement in patient selection (from 48.3% to 95%) and P-ICD-I-M (21.6% to 85%) was demonstrated. Audit: 19 patients had 20 drains. Valid indications for chest drains were recorded in all cases. P-ICD-I-M was also well documented with clear management plans in 90% of cases.

**Discussion and Conclusions:** Often technical skills' training of ICD-I, overlooks development of the arguably more important cognitive skills of optimal ICD-I patient selection and safe P-ICD-I-M.

**Take-home Messages:** Our hands-on workshops addressed the identified lacunae in knowledgebase, receiving very satisfactory feedback and evaluation with demonstrably improved change in behaviour, contributing to increased patient safety.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG10 (2766)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Simulation based education on chemotherapy medication safety of new graduated nurses

#### AUTHOR(S):

- Shu-Fen Chen, Taipei Medical University-Shuang Ho Hospital, Taiwan (Presenter)
- Tze-Fang Wang, National Yang-Ming University, Taiwan
- Mei-Hua Wang, National Taipei University Of Nursing And Health Sciences, Taiwan
- Wen-Ting Ho, Taipei Medical University-Shuang Ho Hospital, Taiwan
- Chia-Li Wu, Taipei Medical University-Shuang Ho Hospital, Taiwan

#### ABSTRACT

**Background:** Chemotherapy are high-risk drugs and even minor negligence may endanger patient safety. New graduated nurses lack experience in the administration of chemotherapy, which is an unfamiliar process, and easily to lead adverse drug events. Simulation-based education is learner-centered and emphasizes the interaction between learners and learning situations. Therefore, our aim is use simulation-based education to enhance the ability of new graduated nurses to administer chemotherapy medications and improve patient safety.

**Summary of Work:** Application of simulation-based education includes skills, simulation, critique and debriefing (SSCD). (1) Technical exercises: Through videos, teaching and practice of delivery techniques. (2) Situational simulation: Key events that lead to alarm events in violation of patient safety are added to the situation, and the entire simulation learning process is recorded. (3) Learning critique: Observe peer performance and record whether the peer has performed important behavioral and safety procedures based on a critique form. (4) Debriefing: Teachers and students examine video content, discuss case focuses, patient safety principles, student performance, and the impact of negligent clinical work.

**Summary of Results:** First, new graduated nurses learning chemotherapy medication safety behavior and were able to identify negligence in patient safety in situation simulations. Second, teaching and learning satisfaction was 95%. Third, there was a slight decline in the rate of adverse drug events. This requires long-term observation and future research.

**Discussion and Conclusions:** Simulation-based education allows new graduated nurses to learn and develop relevant experience in a safe environment without having to worry about causing harm to real patients are very importance to nursing education. Application of situational simulation allows new graduated nurses can learn chemotherapy medications safety behaviors, enabling them to have impressive learning experiences. This learning approach enhances the ability of new graduated nurses to administer chemotherapy medications. Moreover, satisfaction with teaching and learning is improved, along with patient safety and nursing quality.

**Take-home Messages:** Compared with traditional teaching strategies, situational simulation to provide learners with an experiential learning experience. This is an approach for learning how to do a procedure, which includes learning from mistakes and repeated practice, and is effective in improving patient safety.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG11 (1210)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Physician-Pharmacist Cooperation Workshop for Reducing Medication Errors

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Medication errors are common and most recognized by pharmacists. Learning with errors may increase physician self-awareness and improve patient safety. We conducted workshop with pharmacists to improve prescribing skills and develop interprofessional education to our institute.

**Summary of Work:** We set up workshop with three stations consisted of 1. Medication Reconciliation 2. Prescribing Errors and 3. Drug Use Evaluation (DUE) of antibiotics. A group included with physician, pharmacists, interns and 6th year medical students (externs) rotated in each stations every 30 minutes. The questionnaire was used to evaluate satisfaction and advantage scores of workshop.

**Summary of Results:** All questionnaires were responded with 28 interns and 30 externs. The mean of satisfaction and advantage scores were 4.50 and 4.62 with no one responded under score 3 (max score=5). Interns rated scores more than externs both. Interns satisfaction and advantage scores were 4.64(±0.49), 4.75(±0.44) compared with externs score 4.37(±0.72), 4.50(±0.51),  $p=0.095$  and  $p=0.051$  respectively. Most of participants agreed that all three aspects in stations were important and necessary. Some suggested feedback directly to physician and working with interprofessional staffs will improve medication errors.

**Discussion and Conclusions:** Interns and externs in our institute are satisfied with this activity and physician-pharmacist workshop has the advantage for them. Both scores of externs are lower than interns reflect that medication error may be far from them because most patients are treated directly by interns.

**Take-home Messages:** Interprofessional education as physician-pharmacist cooperation workshop may improve medication errors and patient safety.



## #10GG Posters - Patient as Educators/Patient Safety

### 10GG12 (785)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluation of a patient safety course for intensive medicine residents using the Kirkpatrick's model

#### AUTHOR(S):

- Carolina Ruiz, Pontificia Universidad Católica de Chile, Chile (Presenter)
- Magdalena Vera, Pontificia Universidad Católica de Chile, Chile
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#### ABSTRACT

**Background:** Critically ill patients admitted to the Intensive Care Units (ICU) are especially vulnerable to adverse events. The severity of their medical condition, concomitant with the complexity of their management can result in treatment and procedure errors. Daily, 1.7 errors/patient have been described during the ICU stay, and a large part of them can cause significant harm to patients. Despite this, the teaching of patient safety (PS) is limited in many intensive medicine (IM) residency programs. During 2018 a pilot PS course was developed within the IM residency program of the Pontificia Universidad Católica de Chile. This course was developed in 4 sessions by a team of multidisciplinary facilitators, stimulating active learning. The objective of our study was to evaluate this course using levels 1 and 2 of Kirkpatrick's evaluation model.

**Summary of Work:** To assess level 1 (satisfaction) an 11-statement survey was conducted after the first and last session. To evaluate level 2A (perception) an 8-statement survey was applied before and after the course. The results were described with percentages and the evolution of the responses was analyzed using the Fishers Test. A value  $p < 0.05$  was considered significant.

**Summary of Results:** The 18 residents of the program participated in the course and answered the surveys. In the initial satisfaction and perception surveys 88% and 67% of the statements, respectively, were qualified with good scores. The results of both surveys improved after the course was finalized, but without statistical significance.

**Discussion and Conclusions:** Other studies have also shown that it is difficult to improve the perception of PS in residents, even after developing learning programs. These results will help us to improve this course using different learning methodologies. Future intensivists should be experts in PS, so it is imperative to improve the perception that they have of this topic. In conclusions, levels 1 and 2A of Kirkpatrick's model could be improved during a pilot course of PS. This learning activity should be optimized to generate an important change in the perception of PS.

**Take-home Messages:** Learning programs of PS for residents have the challenge to positively stimulate the perception of this topic.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG13 (3259)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 00830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Foundation doctors' perceptions towards feedback on electronic prescribing errors: a mixed-methods, single-centre study

#### AUTHOR(S):

- Ann Chu, Imperial College London, UK (Presenter)
- Arika Kumar, UCL School of Pharmacy, UK
- Geraldine Depoorter, University of Leuven, Belgium
- Bryony Dean Franklin, Centre for Medication Safety and Service Quality, Pharmacy Department, Imperial College Healthcare, UK
- Monsey McLeod, National Institute for Health Research Imperial Patient Safety Translational Research Centre, UK

#### ABSTRACT

**Background:** Medicines safety is a key component of patient safety. Reducing prescribing errors, especially by novice prescribers, is a core aspect of quality improvement in healthcare. The expansion of electronic prescribing (EP) in the NHS requires additional staff training and development. This study explores the views of UK-based Foundation doctors on the provision of feedback on electronic prescribing errors.

**Summary of Work:** A mixed-methods study was conducted at a large NHS hospital Trust. Electronic prescribing in all inpatient areas has been active since 2016. Phase 1 was a questionnaire study (both online and paper) delivered to all Foundation doctors (n=89). Phase 2 was an interview study with volunteer participants from the same sample.

**Summary of Results:** Phase 1: 25/89 submitted responses (28% response rate). Most respondents (23/25) believed feedback about prescribing errors was important. Clinically, they wanted information about their own EP errors and digitally, wanted better understanding of the EP system to prevent repeating errors. However, current feedback provision was lacking or informal. Foundation doctors were supportive of personalised, real-time, digitised feedback mechanisms, as well as learning from general prescribing errors. Phase 2: 12 participants took part in either a focus group (n=7) or an interview (n=5). Foundation doctors appraised draft error reporting templates for utility, layout and perceived impact on learning. They were receptive to receiving personalised EP data but varied in format preferences (e.g. graphs, case studies). Others highlighted the importance of multidisciplinary communication.

**Discussion and Conclusions:** Overall, Foundation doctors would value feedback on their electronic prescribing. As novice prescribers, they are keen to learn from errors, develop their clinical prescribing skills and use the electronic interface effectively. Our findings can be used to facilitate development of personalised EP feedback. Further research is needed to examine how Foundation doctors would engage with personalised error reporting if this was implemented.

**Take-home Messages:** Foundation doctors in this study recognise the importance of learning from feedback on electronic prescribing errors, both clinically and digitally. A range of tailored, user-centred options would be a positive strategy to enhance the value of patient safety information for novice prescribers.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG14 (2516)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### How to increase proper and suitable competency in medical practice

#### AUTHOR(S):

- Boonyarat Warachit, Ministry of Public Health, Thailand (Presenter)
- Varavudh Sumawong, Faculty of Medicine, Thailand

#### ABSTRACT

**Background:** In medical practice, problem solving and decision making skills are very crucial, however these skills decrease despite practicing in both simulated and real patients.

**Summary of Work:** A survey from medical teachers about their opinions in information gathering, critical appraisal, decision making and communication skills in final year medical students was done. An assessment driven learning using long case examination with modified essay question (MEQ) was developed to improve their skills. Final year medical students would have history taking and physical examination with simulated patient for thirty minutes and another thirty minutes for MEQ in this case.

**Summary of Results:** Sixty seven percent from 112 medical teachers said that young doctors had more problems, thirty said it was not different. Sixty three percent agree that we should improve their skills despite most of them could pass national licensing examination. Both long case examination and MEQ are good for assessing clinical reasoning. All medical students satisfied with this formative assessment driven tool.

**Discussion and Conclusions:** Proper and suitable competency can developed using many teaching, learning and assessment tools. Both long case examination and MEQ are good for assessing clinical reasoning but low reliability except using more cases and time.

**Take-home Messages:** Decreasing suitable competency in future doctors resulting decreasing patient safety.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG15 (1160)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### What could be the potential barrier for medical students to speak up when they encounter medical error?

#### AUTHOR(S):

- Chao-Chun Huang, Taipei Medical University Hospital, Taiwan (Presenter)
- Jen-Chieh Wu, Taipei Medical University Hospital, Taiwan
- Hui-Wen Chen, Taipei Medical University, Taiwan
- Yi-No Kang, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Medical student plays an important role in preventing medical error and ensuring patient safety. “See something, say something” sounds not hard but it would be challenging for medical students to report potential medical error in a complex clinical situation. The aim of this study is to identify the potential barrier and factors affecting medical students to speak up when observing potential medical errors.

**Summary of Work:** A cross-sectional study was conducted among 154 clerkship medical students. Barriers of reporting a potential medical error was assessed using a 10-item structured questionnaire with a 6 points Likert-scale. The content validity was obtained by our internal expert group including faculties from different units and disciplines. The tool was developed and modified based on AHRQ hospital survey on patient Safety culture and the local cultural environment.

**Summary of Results:** Nearly 97% of medical students became unconfident when they observed a medical error made by a senior physician even when they are highly confident about essential knowledge and treatment protocol. 74% students considered that the senior physician was in charge so as medical students they do not need to speak up. 96.2% students felt great difficulties to speak up when there existed obvious hierarchy differences. The personality style of the senior practicing physician could affect medical student’s decision on whether to response or not. Medical students may not speak up if the senior physician who is known as stubborn (84.6%), strict (92.4%) and grumpy (88.6%). Gender and different disciplines are not significant factors affecting medical students to speak up in medical error.

**Discussion and Conclusions:** Hierarchy differences is a potential barrier for most medical students to response to potential medical error. Their confidence level to reporting error may decrease if the medical error is made by senior physician. Our study found together with medical knowledge cultivation and teaching, there is a great need for in-depth communication skill training to build up the confidence and competence to respond to medical error scenario for medical students.

**Take-home Messages:** Building up confidence, attitude and competence of teamwork is important for medical students to respond to medical error.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG16 (1201)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Improving patient safety attitude of medical students using medical error simulation scenario training

#### AUTHOR(S):

- Yiting Hsu, Taipei Medical University Hospital, Taiwan (Presenter)
- Jen-Chieh Wu, Taipei Medical University Hospital, Taiwan
- Hui-Wen Chen, Taipei Medical University, Taiwan
- Yi-No Kang, Taipei Medical University Hospital, Taiwan

#### ABSTRACT

**Background:** Building up teamwork and patient safety attitude is important for medical students not only to develop positive learning outcome but also for ensure patient safety. Limited medical curriculum addressing how medical students could be an important role in patient safety network and effect of team training on improving patient safety attitude. The objective of this study is to determine the efficacy of a simulation course related to medical error on patient safety attitude among undergraduate medical students in Taiwan.

**Summary of Work:** We designed a simulation course composing of one minor and one major medical error scenario, respectively, in medical clerkship rotation training. 154 students were enrolled in this study and divided into two groups. One group would encounter minor medical error scenario first, followed by debriefing session and then major medical error scenario. Another group started with major error scenario, debriefing session, and then minor medical error scenario. At baseline and upon completion the simulation course, students completed a 19-item structured team attitude questionnaires using 6-points Likert-scale developed based on TeamSTEPPS teamwork attitude questionnaire and AHRQ hospital survey. Content validity was obtained from internal expert group. We compared their attitude score before and after simulation course.

**Summary of Results:** The average baseline team attitude score is 88.3 for our participants. There was no baseline attitude score difference between both groups (group one 88.0 vs. group two 88.6,  $P=0.54$ ). After simulation scenario and debriefing session, the overall post training team attitude score improved to 89.8 ( $P=0.003$ ). Group two has significant attitude score improved to 90.5 ( $P=0.017$ ) and group one has trend of attitude score improved to 89.07 ( $P=0.081$ ).

**Discussion and Conclusions:** Students experience medical error simulation scenario with faculty lead debriefing session could help to improve their team attitude. It is a safe and controllable teaching intervention for students to learn how to respond timely and correctly to a medical error situation without harming real patient. The students' impression of encountering medical error experience may affect their attitude improvement. Faculty could consider this factor when integrate and design simulation activity and debriefing session.

**Take-home Messages:** Medical error simulation scenario with faculty lead debriefing could help students to develop their team attitude.



## #10GG Posters - Patient as Educators/Patient Safety

### 10GG17 (2273)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### An interactive medication error and patient safety workshop for intern and medical students

#### AUTHOR(S):

- Kanokrot Kovjiriyapan, Medical Education Center Phayao Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** Introducing medication error and patient safety topic to medical students is important. However, it is challenging on how this teaching should be done because medical staffs often felt difficult on apply in teaching. The aim of this study was to develop and evaluate a patient safety learning activity which designed to improve internship and medical students' knowledge and problem-solving skills toward patient safety and medication error using inter-professional team.

**Summary of Work:** Internship, medical students, nurse students and pharmacists were invited to participate in the workshop. In the classroom, teachers implemented the team competition to promote teamwork, leadership and practice communication, and small group discussion for incidental report and improvement method to prevent medication error. Before and after workshop, intern and medical students' perception of knowledge and clinical problem-solving skills toward patient safety and quality improvement and inter-professional skill was assessed. We also evaluated student satisfaction with the workshop.

**Summary of Results:** Pre and post self- assessment were completed by 13 interns and 17 medical students. Interns' mean score perception of knowledge, problem-solving skills and inter-professional skill improved from 3.53 to 4.4 ( $p < 0.05$ ), 3.42 to 4.68 ( $p < 0.001$ ), 3.43 to 4.79 ( $p < 0.001$ ) respectively. Medical students' mean score perception of knowledge, problem-solving skills and inter-professional skill also improved from 3.0 to 4.18 ( $p < 0.001$ ), 3.08 to 4.28 ( $p < 0.001$ ), 2.88 to 4.35 ( $p < 0.001$ ) respectively.

**Discussion and Conclusions:** Interns and medical students' perception of knowledge and problem-solving skills toward patient safety and medication error and inter-professional skill significantly increased from start to end of the workshop. The workshop was an appropriate method of patient safety and medication error education. They are highly satisfied with this workshop.

**Take-home Messages:** Integrating patient safety education into health science education is necessary and should implement in multidisciplinary early year of curriculum.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG18 (3063)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Human Factors Training: evaluating its impact on clinical practice

#### AUTHOR(S):

- Aaron Braddy, National Heart and Lung Institute, Imperial College London, UK (Presenter)
- Elizabeth Haxby, Royal Brompton & Harefield NHS Foundation Trust, UK
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- Phil Highton, Terema Ltd, UK

#### ABSTRACT

**Background:** Human Factors (HF) is a social science which studies and attempts to optimise the interactions of humans, technology and the environment at work. HF offers ways to minimise and mitigate human frailties, so reducing medical error and its consequences. The past 15 years has seen a rise in awareness of HF in clinical practice and professional bodies have incorporated it into standards of practice and education for doctors and nurses. The result of these recommendations has seen the development of HF training courses. To date, only four studies have set out to evaluate HF training. At Royal Brompton & Harefield NHS Foundation Trust a training course in HF has been running since 2003, training approaching 1000 healthcare professionals. We aim to evaluate the impact of this training on participants clinical practice and ability to report clinical incidents.

**Summary of Work:** Each participant completes an end-of-course evaluation involving self-reflection where the participant makes promises to self i.e. how they plan to integrate the training received into practice. We will appraise these promises to look for common themes. They will also be reflected back to participants to evaluate how successfully they have been incorporated. We intend to evaluate clinical incident reports for their quality based on whether the participant has completed HF training.

**Summary of Results:** We will present data appraising the common themes resulting from HF training focussing on its impact on clinical practice. We will review the quality of clinical incident reporting and correlate it to HF training. This will provide an interesting insight into implementation into practice from both a self-reported and objective viewpoint.

**Discussion and Conclusions:** This is the largest conducted study appraising HF training and aims to look at its impact on clinical practice and clinical incident reporting.

**Take-home Messages:** 1) HF is a social science which studies and attempts to optimise the interactions of humans, technology and the environment at work which has been incorporated into standards of practice and education for doctors and nurses 2) This study aims to look at the impact of HF training on clinical practice and clinical incident reporting from both a self-reported and objective viewpoint.

## #10GG Posters - Patient as Educators/Patient Safety

### 10GG19 (670)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Moving beyond written reflection: An assessment of postgraduate trainee reflective accounts

#### AUTHOR(S):

- **Melanie D'Costa, University of Liverpool, UK (Presenter)**
- Jeremy Brown, Edge Hill University, UK
- Gavin Cleary, Alder Hey Children's Hospital, UK
- Graham Lamont, Alder Hey Children's Hospital, UK
- Malcolm Semple, University of Liverpool, UK

#### ABSTRACT

**Background:** Reflection is considered fundamental in postgraduate medical training, as advised by the General Medical Council (GMC). In order to demonstrate engagement with this practice, compulsory written reflections are often used in work based assessment. Many clinicians remain reluctant to complete written reflections. Barriers include variable training and feedback practices, inconsistent role modelling and disparate ideas regarding the added value of formalised reflection. Some doctors appear to prefer traditional methods of evaluating errors, such as peer discussion or independent rumination. In 2018, the erroneous assumption that Hadiza Bawa-Garba's e-portfolio reflections were used in criminal court proceedings caused fear amongst the UK Medical community, worsening the collective disengagement from reflection.

**Summary of Work:** As part of the standard evaluation of medication errors at Alder Hey Children's Hospital, the prescribers are invited to participate in a reflective exercise. The aims of this pilot study were (1) to determine the extent of engagement with optional reflective learning and (2) to assess the quality of these reflective reports. Ethical approval was sought from the University of Liverpool. Reflections submitted by trainee doctors across a two year period were graded using a previously published quality rubric. Ordinal scores from 0 to 6 were allocated according to the description of the event, justification of lessons learned and analysis of contributory factors.

**Summary of Results:** Preliminary analysis indicates poor engagement with an approximate return rate of 30%. Thirty seven reflections from 2017 (n=16) and 2018 (n=21) were graded, with a mean score of 2.8 (standard error 0.22). Further analysis is planned to identify trends in engagement across different time periods and training levels.

**Discussion and Conclusions:** This project supports previous work in reporting poor engagement with written reflection. Results will inform a future substantive study which aims to identify andragogical methods of reflection through exploratory interviews.

**Take-home Messages:** Although written reflection is widely used within postgraduate medical assessment, quality and engagement can be substandard. Enhancing existing methods of authentic reflection may be preferred by doctors and promote triple loop learning, allowing for greater educational impact.

## #10HH Posters - Humanities

### 10HH01 (2696)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Healing architecture: a cross-national elective with on-site visits and discussions with architects about good examples of contemporary hospital architecture

#### AUTHOR(S):

- Michael Wilde, University of Basel, Medical Faculty, Switzerland (Presenter)
- Götz Fabry, University of Freiburg, Germany
- Rainer Schaefer, University Hospital Basel, Switzerland
- Steffen Kammler, University of Rostock, Germany
- Wolf Langewitz, University Hospital Basel, Switzerland

#### ABSTRACT

**Background:** Medical Humanities is a relatively young field within medical studies and its exact orientation can vary from university to university. In Basel (Switzerland) e.g., the Humanities track focuses on different approaches to subjective illness in literature, film and via students' reflective writing. In Freiburg (Germany), the focus is on ethics and medical history. Against the backdrop of this heterogeneous situation, we developed a joint course for medical students from both universities that highlights an additional facet that, to our knowledge, is seldomly represented in Medical Humanities curricula: the question whether hospital architecture is able to create a specific atmosphere and whether this atmosphere has an impact upon health. The aim of the course is to evoke a sensual-explorative sensitivity from the students: How does architectural design affect me and how do I know? What can architects tell me about their intentions? What do hospital staff and patients/relatives say about the effects of the buildings on them?

**Summary of Work:** We conduct this elective course in a small group format that is very much based on the students own initiative: they select the destinations for their excursions themselves and plan and carry them out in pairs. On site, they collect as diverse material as possible: not only their personal impressions of architecture and atmospheres, but if possible interviews with leading architects, talking to professionals, patients, or relatives about how they feel in the buildings. Each team then presents their impressions in a plenary session.

**Summary of Results:** Students report that they are interested in an elective course on architecture and medicine. They appreciate the change of perspective and the widening of horizons, and they consider the influence of the architectural environment on the healing process of patients to be important.

**Discussion and Conclusions:** An elective course on architecture and medicine complements the spectrum of Medical Humanities and is an ideal opportunity to rediscover the effects of our immediate surroundings, reflected in the ideas architects had intended.

**Take-home Messages:** The architecture and atmosphere of hospitals is a sensually experienceable subject that offers a variety of opportunities for personal and interprofessional exchange.

## #10HH Posters - Humanities

### 10HH02 (2020)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Medical Humanities Curriculum For Younger Medical Students, Home-Based Palliative Care Program Helps!

#### AUTHOR(S):

- Ting-Fang Chiu, Taipei City Hospital, Taiwan (Presenter)
- Jason Jiunshiou Lee, Taipei City Hospital, Taiwan
- Li-Lin Kuo, Taipei City Hospital, Taiwan
- Oscar K. Lee, National Yang-Ming University, Taiwan
- Dachen Chu, Taipei City Hospital, Taiwan
- Chih-Yuan Shih, Taipei City Hospital, Taiwan

#### ABSTRACT

**Background:** Taipei city hospital(TCH) has held the first palliative care curriculum for younger medical students since 2015 in Taiwan. For younger medical students from National Yang-Ming University, TCH kept improving the medical humanities curriculum and started to offer students 20 hours home-based palliative care(HBPC) since FEB, 2018. This study aimed to investigate the effectiveness of the program.

**Summary of Work:** A total of 124 students took the medical humanities course, and 12 students elected HBPC program. TCH has divided twelve students into four groups, and we assigned each group rotated in five branches. The students joined the hospice team and visited the patients in hospice care together at their own house. In each branch, students could learn how to care patients in psychosocial aspects and have palliative care experiences from different cases. At the end of the semester, students finished 11 multiple choice questions and an open-ended question to evaluate their learning situation, study habits, and the effectiveness of the program they elected.

**Summary of Results:** Compared with the whole class, students in the HBPC program have a higher satisfaction rate(100%). The most part that students felt wasting time was the time spent on transportation(36%) and writing reports(64%). The HBPC program helped students have 100% increased awareness of the humanistic, social, and cultural dimensions of health care while others showed 92.8%. One hundred percent HBPC students would recommend other students take the HBPC program while others were 92.79%.

**Discussion and Conclusions:** Overall, students felt the HBPC program was amazing and meaningful. Students want to thank patients, patients' family, and the hospice team. The hospice team found students become more enthusiastic and empathetic students. Students have important feedbacks for the hospice team: younger students hope more chance to communicate with the patients and their family and they want the hospice team to encourage them to do so. Moreover, the students want to have more time caring patients in the community.

**Take-home Messages:** TCH would keep improving the HBPC curriculum and ask the hospice team to encourage the students to involve in the family meeting and patient-team-family communication more. TCH will also keep offering HBPC opportunities in the community for students after the semester.



## #10HH Posters - Humanities

### 10HH03 (1617)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### In sickness and in health: teaching medical ethics through art

#### AUTHOR(S):

- Sabyha Khan, London North West University Healthcare Trust, UK (Presenter)
- Shakeel Rahman, Imperial College London, UK
- Adrian Raby, Imperial College London, UK

#### ABSTRACT

**Background:** Communicating and acting with empathy are key elements of undergraduate and postgraduate medical curricula in the UK. A new “Medical Ethics and Film” specialty choice module has been introduced at Imperial College London, designed to explore medical ethics and the portrayal of the virtues of a doctor in film. The module involves four weekly sessions designed to examine themes such as end of life care, mental health, genetics and disability, with a selection of relevant films forming the basis of discussion. The objectives of the module are to utilise the narrative to stimulate critical analysis and moral imagination, alongside development of empathy. The aim of this study is to evaluate the teaching module with respect to the effectiveness of the methods used to evoke moral imagination and empathy in eight third year medical students.

**Summary of Work:** Eight third year medical students at Imperial College London completed evaluation forms for the four individual sessions comprising the course. In addition, students completed an assessment task designed to utilise moral imagination and analytical skills cultivated during the module.

**Summary of Results:** Preliminary results indicate that students believe this to be an effective method of teaching medical ethics with adequate opportunities to contribute meaningfully, develop ideas and knowledge and consider scenarios from varying perspectives.

**Discussion and Conclusions:** Narratives within media can simultaneously provide multiple perspectives on a given issue, as well as those of demographics of society which are otherwise poorly represented. Examination and analysis of these can facilitate the cultivation of moral imagination within a traditional classroom setting, in a similar fashion to consideration of the emotional and social experiences of patients. Determining whether this is an effective method of teaching medical ethics could impact the promotion of this model of teaching and advocate the expansion of the role of media in teaching of medical ethics.

**Take-home Messages:** Film and other media represent effective methods of teaching and learning within medicine. There is more scope for the incorporation and study of such methods in medical curricula; the role of art in the learning experience can expand, particularly in terms of encouraging development of moral imagination, empathy and a holistic approach in clinical practice.

## #10HH Posters - Humanities

### 10HH04 (190)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### A qualitative analysis of residents' reflection on palliative care movie: a pilot study in pediatric residency training

#### AUTHOR(S):

- Tipaporn Thongmak, Hatyai Medical Education Centre, Thailand (Presenter)
- Thitiporn Borkird, Hatyai Medical Education Centre, Thailand

#### ABSTRACT

**Background:** Movie is one of teaching methods of professionalism, ethical issues and communication skills for health professionals, particular in the palliative care topic. Movie is a part of four palliative care learning sessions in pediatric resident. This is a pilot study, which aims to explore the residents' reflection of what they have learned from the movie and how to apply it in future practice.

**Summary of Work:** This is a qualitative study using three semi-structure interview questions to collect the participants' reflection after watching the movie, My Sister's Keeper. Nine pediatric residents, who are in the second and the last year of training were invited to a focus group interview. The data was analysed by using the thematic analysis.

**Summary of Results:** Nine residents participated in a focus group interview. Most residents pointed out the family context played an important role for decision making and caring for the pediatric patient. Some residents said treatment of the chronic disease should find out the patient's meaning of life and provide quality time for the children. For the communication skill, most residents reflected the one-way communication in breaking bad news was not a good method for the patients and their family and they claimed that the family meeting was a better method for family members to discuss and decide on the best care for the patient. All residents said they should place an important emphasis on the family context for the best in palliative care patient in the future.

**Discussion and Conclusions:** The pilot study firmly suggested that using the movie is a good method for learning about palliative care for residents. The pediatric residents gained a lot of understanding of palliative care via the movie such as communication skills, family context and how to provide palliative care. Due to the pilot study, further studies with more residents will be the next project.

**Take-home Messages:** (1) Movie is a suitable method for palliative care teaching and learning activity. (2) The learners can learn several points from only one movie.

## #10HH Posters - Humanities

### 10HH05 (2336)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Agency or Complicity: An analysis of physicians' reflective narratives about flaws with the "system"

#### AUTHOR(S):

- Tracy Moniz, Mount Saint Vincent University, Canada (Presenter)
- Rachael Pack, Western University, Canada
- Lorelei Lingard, Western University, Canada
- Chris Watling, Western University, Canada

#### ABSTRACT

**Background:** Physicians often express frustration with the system in which they work. Over time, this frustration may put them at risk of burnout and disengagement, which may impact patient care. Contemporary training aims to empower physicians as systems-literate advocates. In this study, we aimed to understand the nature of the system flaws that physicians most often identified and to explore their sense of self as agents of change.

**Summary of Work:** We reviewed all reflective narratives published in four major medical journals (NEJM, JAMA, CMAJ, Annals IM) between January 2015 and December 2017. By consensus, we identified those that addressed system flaws (n=87). Using content and narrative analysis, we analyzed the types of flaws, the narrative strategies, and the physicians' orientation to the flawed system.

**Summary of Results:** Most stories pointed to medical culture as flawed, focusing on issues of communication, education, stigma, and behavioural norms. These narratives problematized the effects of medical culture on professional fulfilment, burnout and physicians' ability to meaningfully enact the values underpinning their profession. Less frequently, physicians' narratives exposed flaws external to culture, such as resource limitations and disparities as well as rigid institutional practices, as factors that impede patient-centered care. Physicians told stories to express opinions and share lessons, often stemming from an extra-ordinary patient encounter or a personal healthcare experience or because they witnessed a flaw in action. Physicians often positioned themselves as part of the flawed system, expressing varying degrees of complicity as well as agency to propel collective or individual change.

**Discussion and Conclusions:** Physicians narratives represent important internal conversations about the challenges they face within the complex systems they must navigate and their role in perpetuating flawed systems and/or creating change. These narratives offer insight into the limits of physicians' perceived power to effect change within medical culture and healthcare systems, and add nuance to the notion of systems-level advocacy.

**Take-home Messages:** What physicians find most flawed about the system is the culture of medicine itself. Physicians look inward to critically reflect on how medical culture compromises patient-centred care and perpetuates bias and burnout in the profession.

## #10HH Posters - Humanities

### 10HH06 (247)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Narrative medicine's influence on medical students' readiness for holistic care practice: A realist synthesis

#### AUTHOR(S):

- Chien-Da Huang, Chang Gung Medical Education Research Center, Chang Gung Memorial Hospital, Chang Gung University, Taiwan (Presenter)
- Yufrica Huang, Chang Gung Medical Education Research Center, Taiwan
- Lynn Monrouxe, Chang Gung Medical Education Research Center, Taiwan
- Shu-Chung Lii, Chang Gung University, Taiwan
- Ko-Hong Lee, Chang Gung Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** Narrative medicine (NM) facilitates empathy with healthcare professionals, and meaningful interactions with patients. Holistic healthcare is a form of healing, considering the whole person: body, mind, spirit, and emotions. We examined the influence of NM on medical students' readiness for holistic care to understand what works, for whom and why.

**Summary of Work:** Realist synthesis (RS) is a theory-driven approach, evaluating complex interventions. This RS follows five steps: locate existing theories, search strategy, study selection, data extraction, data analysis, synthesis. Electronic databases (Web of Science, Medline, Scopus, Embase) were searched. Results will be presented according to the RAMESES standard for reporting RS.

**Summary of Results:** 14 papers from 111 (after duplicate removal, screening). Contexts of: learning process/environment (active-learning, process-oriented, critical-pedagogy); doctor-role (educator, authority, devil-figure, partner) were identified. Mechanisms included motivation to help, feeling patients' trust, values/belief in doctor-identity, fears of changing, and self-disclosure. Outcomes included enhancing: communication, clinical-care, clinical-skills, professional/personal development, seeing patients-as-a-narrative, and peer-collaboration.

**Discussion and Conclusions:** We identified a range of context-mechanism-outcomes around the influence of NM on medical students' readiness for holistic care practice. For example, the in the context of the role of the doctor, the mechanisms of values and belief in being a doctor (identity) produced professional and personal development, and seeing the patients as a narrative. A realist approach looks into the 'black box' (mechanisms), which facilitate NM and develop a programme theory to explain what influences students' readiness holistic care practice. By understanding these, we can develop better NM programmes for future students and practitioners.

**Take-home Messages:** The realist synthesis creates an understanding about the context and mechanism, in which NM was implemented, and might have important impact on medical students' readiness for holistic care practice.

## #10HH Posters - Humanities

### 10HH07 (2583)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Choral music and health professional education: students' perceived benefits

#### AUTHOR(S):

- Lucia Pellanda, UFCSPA, Brazil (Presenter)
- Marcelo Rabello dos Santos, UFCSPA, Brazil
- Leonardo Rocha de Almeida, UFCSPA, Brazil

#### ABSTRACT

**Background:** Music and health connections are described in many studies. Choral singing is an artistic expression recognized as a promoter of social integration and humanization. The Federal University of Health Sciences of Porto Alegre (UFCSPA), the only Brazilian federal university specialized in health, has a Chorus as an extension activity for students and community.

**Summary of Work:** The Chorus is inclusive, with no pre-requisites and no performance test for admission. Participants collaborate to build the repertoire. In 2018 the chosen topic was "Music, resistance and freedom". The students researched political and cultural aspects, in order to situate the songs in their historical context. During this period, the chorus performed 17 concerts for a total audience estimated at 2,350 people, including vulnerable communities next to health practices. At the end of the year all singers were invited to respond an evaluation form.

**Summary of Results:** In 2018, the chorus had 103 participants. Of these, 14 were UFSCPA students, including Biomedicine, Pharmacy, Physiotherapy, Speech Therapy, Medical Physics, Nutrition, Psychology, Analytical Toxicology and Medicine students. Other participants include university workers (6), students from other institutions (6) or from the community (50). The response rate was 90%. For students, two dimensions emerged: the musical activities provides moments of well-being and relief from the pressures imposed by academic activities; and chorus activities complementing technical training in health, offering an opportunity to exercise more humane relationships. Non-student members cited personal transformation as the main perceived benefit, followed by establishing social bonds.

**Discussion and Conclusions:** The UFCSPA Chorus' inclusive characteristics promote the coexistence of Health students with diversity, not only in the rehearsals, but also in concerts. Humanization in the context of health care is to confer centrality to contact with otherness: is to direct attention to the other. Singing in group is perceived by health students as important for their professional formation. The importance of this project increases with community participation, its inclusive character, performances in vulnerable settings and collaborative construction and research of the repertoire

**Take-home Messages:** Inclusive art projects can promote a territory of complementary training and well-being for health students, preparing them for a more humane and qualified performance.



## #10HH Posters - Humanities

### 10HH08 (1172)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Learning Outside the Classroom: The Effects of Life Experience Reinforcement Camp on Medical Student Technical and Nontechnical Skill

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Ability to apply theoretical knowledge and skill to practical use is essential in medicine and learning in authentic environment such as outpatient clinic or surgical theater make learning more meaningful. Using Kern's 6-step model, medical students report lack of confidence in performing some technical and nontechnical skills. Life experience reinforcement camp is an extracurricular activity set outside teaching hospital in sub-district health promoting hospital situated in rural areas. The camp focus on learning common community health problem, clinical and communication skill practicing, inter-professional working, holistic care, and volunteer work.

**Summary of Work:** Camp organizer committee prepare the following learning activities: taking history and physical examination of patients with various health problems, screening for obstetric and gynecological disease, disability evaluation, physical therapy, home/bedridden patient home visit, and community volunteer work. Medical students voluntary register online and participation of any activity depends on year of study. All performances are done under supervision of attending physician/ health care personnel who provides feedback. Students evaluate their achievement of intended learning objectives using 5-point rating scale.

**Summary of Results:** In 2018, four camps (10th-13th camp) in four sub-district health promoting hospitals with 212 participants, including 20 clinical teachers (major and minor discipline), 27 residents and interns, 29 health aligned personnel, 42 supporting personnel, 94 medical students. 450 patients included 105 general health problems, 231 musculoskeletal problems, 109 screenings for cervical cancer, 27 disability evaluation, 99 physical therapy, five home/bedridden patient home visit. Teamwork and decent professional attitude ranked the highest (4.39) follow by learning from community member (4.34), proactive and holistic health care system (4.19), appreciation of community value and culture (4.18), volunteer work (4.16), communication and transfer of health information (3.85), history taking (3.80), physical examination skill (3.53).

**Discussion and Conclusions:** Camp activities provide medical students opportunity to apply their classroom knowledge to real settings. With the current instructional design, achievement of non technical skills essential for community doctor, i.e., team working, holistic care management were higher than technical skills, i.e., history taking, physical examination. With some managerial adjustments might lead to improvement of achievement score.

**Take-home Messages:** Life experience reinforcement camp help prepare medical students for future work in the community.

## #10HH Posters - Humanities

### 10HH09 (1630)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Medicine on a Grand Scale: Selective Colloquia Broaden the Scope of an Undergraduate Medical Curriculum

#### AUTHOR(S):

- **Raymond Curry, University of Illinois College of Medicine, USA (Presenter)**
- Michael Zhao, University of Illinois College of Medicine, USA
- Jeanette Cheng, University of Illinois College of Medicine, USA
- Mitchell King, University of Illinois College of Medicine, USA
- Elsa Vazquez-Melendez, University of Illinois College of Medicine, USA
- Joanna Michel, University of Illinois College of Medicine, USA

#### ABSTRACT

**Background:** The medical school years afford physicians-in-training their best opportunity to explore the breadth of topics related to medicine and health (1) - in the spirit of Virchow, who referred to politics as “medicine on a grand scale.” The Illinois Medicine Curriculum, inaugurated in 2017, includes a course - “Medical Colloquia” - consisting of selective seminars augmenting material presented elsewhere in the curriculum and providing a platform for issues not easily integrated into other courses.

**Summary of Work:** All M1/M2 students at the College’s 3 campuses attend at least 6 Colloquia sessions per curricular term. Each session offers multiple topics (6-8 choices in Chicago; 2-4 in Peoria and 1-2 in Rockford, commensurate with relative class sizes). The curriculum is designed to collectively address five overall curricular themes, and expose students to the broad scope of issues related to medicine and health. Formats include lecture or panel presentation, small group discussion, and creative workshop sessions (e.g. poetry, narrative writing), and emphasize patients’ lived experiences and interprofessional perspectives whenever possible. Students submit post-session evaluations and narrative reflections.

**Summary of Results:** During fall term 2018, 102 topics were presented across the 3 campuses, with a mean of 7.3 topics/session in Chicago and 3.5 in Peoria. All Rockford sessions were in plenary format. Among the five curricular themes, Health, Illness & Society/Health Humanities and Clinical Practice were represented most often (44% and 22% of topics, respectively), followed by Health Care Systems (17%), Foundational Knowledge (10%), and Professional Development (8%). Student reviews gave the best ratings to sessions that brought to life patients’ stories of their lived experiences with illness. Feedback on session quality was used to determine future offerings.

**Discussion and Conclusions:** Given the intentional heterogeneity of students’ experiences in the course, progress toward specific learning objectives is difficult to delineate. Students’ enthusiastic engagement, and opportunities for students’ self-directed learning and reflection, have provided sufficient impetus for further course development and analysis of outcomes.

**Take-home Messages:** A colloquia-style course enhances the breadth, student-centeredness, and currency of the curriculum, while minimizing additional classroom time.

**Reference:** (1) Curry RH, Montgomery K. Toward a Liberal Medical Education. Acad Med. 2010 85(2):283-287

## #10HH Posters - Humanities

### 10HH10 (448)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The curriculum of medical humanities museum touring for non-medical students

#### AUTHOR(S):

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- Chi-Feng Hung, School of Medicine, Fu-Jen Catholic University, Taiwan
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- Li-Ying Huang, Department of Internal Medicine, Fu-Jen Catholic University Hospital, Taiwan

#### ABSTRACT

**Background:** Museum of Medical Humanities of Fu-Jen University College of Medicine is a new medical humanities museum in Taiwan which is designed to provide educational theme relating to medical humanities. A curriculum of medical museum touring as a part of humanities education has been recently started.

**Summary of Work:** We designed a curriculum of elective learning course for the non-medical students to visit the Museum of Medical Humanities in Fu-Jen University since August 2017. Participants were arranged to attend 3 medical humanities courses including the development of Catholic medicine in Taiwan, the development of digestive medicine and the development of neonatal care. Each course included one-hour lecture and one-hour museum touring. The students were asked to fill in the questionnaire and submit the term report. The results were summarized and analyzed.

**Summary of Results:** Totally 147 students in one year period attended the curriculum and responded to the questionnaire. The results showed satisfaction score for the visiting was 4.48 (Likert Scale, total=5); improvement of self-awareness to the content was 4.45 and enhancement of self-awareness of humanities was 4.32 after the visiting. From the 92 written reports, they showed their impacts to historical sense (52.2%), medical knowledge (50%) and social concern (87.5%). About the medical humanities quality, they also described a various cognition of humanities on the facets of empathy, altruism, trustworthiness, correct values, and lifelong learning.

**Discussion and Conclusions:** Our initial study showed non-medical students performed the museum visiting with an exciting attitude. Most participants gave positive feedback and were satisfied with the course design. Visiting the medical humanities museum plays a novel role in humanities education for non-medical university students. It can stimulate the student's awareness of humanities and promote their qualities of humanism through museum visiting. The long-term effect of the touring on humanities attitude needs further follow up.

**Take-home Messages:** Can visiting tour of medical humanities museum play a potential role in humanities education for non-medical students?

## #10HH Posters - Humanities

### 10HH11 (251)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of a Cross-Cultural Academic Integrity Questionnaire

#### AUTHOR(S):

- **Marcus A Henning, University of Auckland, New Zeland (Presenter)**
- Mohsen Alyami, University of Auckland, New Zealand
- Zeyad Melyani, King Abdulaziz University, Saudi Arabia
- Hussain Alyami, University of Auckland, New Zealand
- Ali Al Mansour, Saudi German Hospital, Saudi Arabia

#### ABSTRACT

**Background:** There are very strong arguments motivating the development of cross-cultural appropriate questionnaires in medicine and other academic disciplines. Apart from this questionnaire under discussion, no existing academic integrity questionnaire has incorporated a cross-cultural feature in their design and development. Second, there is a growing internationalization of higher education suggesting a standardised measure that is valid across regional and discipline boundaries is essential. Measurement of academic integrity is not only about quality control and measurement but can also be used as an educational tool.

**Summary of Work:** The design and development of this cross cultural measure of academic integrity has undergone several phases and adopted a sequential process of advancement. In phase 1, content validity was employed to develop the first iteration to be applicable for New Zealand Medical and Pharmacy students. Second, the questionnaire was trialled and further developed based on data obtained from Nigeria and Iran. Lastly, the questionnaire was translated into Arabic and trialled on Saudi higher education students.

**Summary of Results:** In reference to this presentation, the last two iterations utilized several factor analysis procedures (exploratory and confirmatory) in addition to inspections of the item distributions. In the most recent iteration, the Saudi Arabian dataset confirmed a refined version of the previous questionnaires which the development of a three factor, 10-item questionnaire. A summary of these results will be presented.

**Discussion and Conclusions:** The current research iteration of a cross-cultural measure, yielded promising results that indicated a stable measure that could be applied to different discipline groups and used across English and Arabic regions.

**Take-home Messages:** Designing and developing a measure of academic integrity in itself is a challenging task, but to extend this to a cross cultural measure increases the complexity. Nonetheless, it is important to develop a standardised measure that has metric applicability and translational equivalence in terms of conceptual understanding of the ideas being tested.

## #10HH Posters - Humanities

### 10HH12 (637)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The Role of Medical Humanities Curriculum Related with Cadaver Dissection to Promote Medical Students' Medical Professionalism

#### AUTHOR(S):

- Wha Sun Kang, The Catholic University of Korea, College of Medicine, South Korea (Presenter)
- Soo Jung Kim, The Catholic University of Korea, College of Medicine, South Korea
- Pyeong Man Kim, The Catholic University of Korea, College of Medicine, South Korea
- Dong-Mi Yoo, The Catholic University of Korea, College of Medicine, South Korea

#### ABSTRACT

**Background:** Cadaver Dissection plays a significant role in the medical student's educational process on both a cognitive and emotional level. In the practice of cadaver dissection, medical students could learn not only medical knowledge but also views and attitudes on life and death as a good doctor. We designed a week medical humanities block course (MHBC) in the middle of cadaver dissection curriculum to integrate 'Gross Anatomy' and 'Medical Humanities' and promote students' medical professionalism.

**Summary of Work:** The subjects consisted of 99 first-year medical students. All participants completed 12 items questionnaire asking reflection in regards to the practice of cadaver dissection and view and attitudes on life and death. And we asked all participants to choose what competencies of Medical Professionalism could be developed through the cadaver dissection and the MHBC. The collected data were analyzed using mean scores and a descriptive statistics by SPSS.

**Summary of Results:** The participants responded that the practice of cadaver dissection helped them to have a right set of values regarding human and the sanctity of life. They also answered that they could think about life and death through the reflective opportunities in the MHBC. Additionally, 51% of the participants perceived that competencies of Medical Professionalism such as empathy, teamwork and respect for patients were developed by cadaver dissection the MHBC.

**Discussion and Conclusions:** The results support that cadaver dissection and the MHBC could help students not only to acquire medical knowledge but also to develop the professional competencies required by doctors, such as self-reflection, team work and professional thinking and behavior. A week medical humanities block course in the middle of cadaver dissection was the meaningful approach to integrate the basic medical sciences and Medical Humanities.

**Take-home Messages:** Integration of curriculum is meant to make teaching and learning activities meaningful. However, Integration of the curriculum entails a lot of time and work in respect of planning, organization and implementation. To develop and implement successfully the integrated curriculum, the faculties have to be deeply involved and cooperative, especially over disciplinary and departmental borders.



## #10HH Posters - Humanities

### 10HH13 (1439)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### What do students gain from integrating the studies of arts and humanities with medical education?

#### AUTHOR(S):

- Eleen Inayat, University of Bristol, UK (Presenter)
- Sofia Mashanovich, University of Bristol, UK

#### ABSTRACT

**Background:** As students of the new MB21 curriculum at the University of Bristol that entails a case based learning course with a focus on medical humanities, we wanted to explore the importance of integrating the studies of arts and humanities with medical education. The first year of the course initially comprises of a foundations of medicine module, including a unit in the art of medicine whereby students explore holistic care and the ways in which the arts and humanities affect lay perceptions of health.

**Summary of Work:** We set out to gather 2 sample groups: one comprised of first and second year medical students undertaking the MB21 course (which includes modules in the art of medicine) and one of third and fourth year medical students who studied the MB16 course that was formerly offered at the university. We compiled a series of questions to gain insight into whether the students perceived the inclusion of medical humanities to be more beneficial by comparing the sample groups. Survey responses were collected from the two sample groups to collect information on the differences in student engagement, satisfaction and enthusiasm.

**Summary of Results:** Preliminary analysis of the data would suggest that students showed greater engagement with a course that includes an appreciation for medical humanities. Many of the MB21 students highlighted that they were able to express creativity in opportunities such as the 'Foundations of Medicine Conference' and the 'Effective Consultant Creative Assignment'. In contrast, students from the MB16 curriculum expressed a wish to include more creative opportunities in their learning, which was predominantly lecture based and scientific.

**Discussion and Conclusions:** The inclusion of medical humanities not only facilitates understanding of scientific concepts but also allows students to understand the Importance of patients' perceptions of the human body and the influences that this can have on a patients interaction with healthcare. Through humanities, the student sees the whole patient, rather than just their problem.

**Take-home Messages:** Medical education should instil a wider appreciation for the arts and humanities to enlighten future doctors on the way in which lay people perceive medicine and science.

## #10HH Posters - Humanities

### 10HH14 (1648)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The impact of a longitudinal integrated humanities program in an undergraduate medical curriculum: a qualitative study

#### AUTHOR(S):

- **Maria Cecília Lemos Pinto Estrela Leão, Universidade do Minho, Portugal (Presenter)**
- Helena Chini, IF Sul Minas, Brazil
- Nadine Correia Santos, Universidade do Minho, Portugal
- João Bessa, Universidade do Minho, Portugal
- Manuel João Costa, Universidade do Minho, Portugal

#### ABSTRACT

**Background:** Currently, the integration of the Humanities in undergraduate medical curricula is widely recommended. However, little is known about the impact of humanities curricular units on student development. This qualitative study was conducted to evaluate the impact of the longitudinal integrated humanities program of Minho Medical School, according to the perceptions of students and faculty from other units. This unit integrates topics from several disciplines.

**Summary of Work:** After ethics approval, coordinators and faculty from basic and clinical Curricular Units (UC's) were interviewed individually. In addition 4 focus groups were held with deliberate samples of students from the 2nd to the 5th year. The interviews followed a structured guide developed for the purpose of this study. The interviews were recorded transcribed and analysed with NVivo.

**Summary of Results:** Students and faculty agreed on the importance of the Humanities units (HU). Student narratives revealed that they considered the HU facilitated the improvement of their communication with patients and their reflexive capacity and attitude during clinical practice. Students also mentioned deeper knowledge about ethics, literature, palliative care and reflexion on topics not covered by other units, and also more understanding about controversial subjects. They considered the benefits of HU were more professional than personal. Faculty from other units agreed that the inclusion of Humanities enhanced aspects of professional activities - communication with patients, professional and inter-professional conflict management and positive influence on students' development, notably on their behavioural level such as resilience and the reflexive capacity during the clinical practice, having as a result a person-centred approach.

**Discussion and Conclusions:** In general, there were positive perspectives of the Humanities units, as they were considered to facilitate the development of personal and professional competences by coordinators, faculty member and students. This study developed in the context of one institution, suggested that the integrated humanities program achieved wide acceptance and recognition across several stakeholders.

**Take-home Messages:** Longitudinal integration may be an effective strategy to expose undergraduate medical students to the humanities.

## #10HH Posters - Humanities

### 10HH15 (2394)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Students' bioethics attitude toward gene editing - a qualitative and quantitative analysis from a medical humanity class

#### AUTHOR(S):

- Shiu-Jau Chen, Mackay Medical College, Mackay Memorial Hospital, Taipei, Taiwan (Presenter)

#### ABSTRACT

**Background:** With the advance of genetic technique, many bioethical issues are generated. This study aims to evaluate students' attitude before and after a genetic bioethics class. And to understand what their considerations regard to humanity are.

**Summary of Work:** Twenty-six medical students was enrolled in the 2 hours class talking about genetic bioethics. The class was proceeded with slide introduction, video watching, and experience sharing. There are 4 pretest questions with the answer ranged from 1 (total against) to 7 (total approve). For example: 1. Do you agree with the statement: no matter what the purpose is, we should not violate the evolution of nature. 2. With no side effect, do you agree with gene editing for human. At the end of the class, a posttest was performed and a 30 minutes quizzes was taken. The question was "The first genetic editing baby was born in China." Please express your opinion in term of medical humanity. Qualitative analysis was performed from the quizzes to understand their ethical considerations.

**Summary of Results:** From the analysis of pre and posttest data, students' acceptance of genetic editing declines after the class. The mean score of the 4 questions decreased from 5.8(pretest) to 4.1(posttest) with a statistical difference. Their considerations against gene editing include: Oppose universal rules (moral intuition), violation of nature and evolution (doing Gods work), national interests, personal academic interests, monetary benefits, genetic change risks and uncertainty, reduced genetic diversity, slippery slope, people being tagged (becoming tools), parents identification, go against the principle of fairness and justice (the game of rich people), invasion of privacy, violation of autonomy.

**Discussion and Conclusions:** Students' attitude toward gene editing became more conservative after the class. From quizzes analysis, most student conclude that gene editing can only be do when the negative effect is eliminated. In addition to ethical thinking, national and monetary factors may interfere this decision.

**Take-home Messages:** By quantitative analysis of the pre-and post-test result, teachers know the percentage of attitude change after class. Through quantitative analysis, teachers understand what their students learn from class. Both methods have benefits in narrowing the distance between teaching and learning, as a tool for curriculum adjustment.

## #10HH Posters - Humanities

### 10HH16 (1537)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Using graphic illustrations to uncover how a community of practice can influence the delivery of compassionate healthcare

#### AUTHOR(S):

- Nancy Dalgarno, Queen's University, Canada (Presenter)
- Trisha Parsons, Queen's University, Canada
- Deborah Tregunno, Queen's University, Canada
- Leslie Flynn, Queen's University, Canada

#### ABSTRACT

**Background:** Our modern-day frenetic healthcare culture has progressed to a place where healthcare professionals tend to detach themselves from their patients emotions, rather than embed compassion into daily practice. The AMS Phoenix Project: A Call to Caring was implemented with the goal to instill and sustain empathy and compassion in environments where clinicians learn and work. The purpose of this study is to report on how an interprofessional community of practice (CoP) of healthcare educators can contribute to a cultural shift in promoting and delivering compassion in healthcare through health professionals education.

**Summary of Work:** Using an imaginative creative autoethnography that adopts a narrative design through graphic illustrations, data was collected from 25 members of the Phoenix@Queen's CoP during a one-day retreat. Data collection included a graphic recorder who visually depicted all retreat dialogue, field notes that highlighted emergent themes, and artifacts produced throughout the retreat.

**Summary of Results:** Using thematic analysis, three themes emerged: the call to caring is a long and winding road with many barriers and rewards; CoP members experienced personal growth in and through the community; and the Phoenix@Queen's CoP matters in terms of professional relationships, leadership, and moving forward a shared agenda about practicing compassionate healthcare.

**Discussion and Conclusions:** This study describes the development of a CoP that moves away from traditional committees and discussions to an experiential creation of connections and shared meaning by its members. By using autoethnography and demonstrating how graphic illustration can be an innovative and creative method for recording and interpreting group discussions, we have allowed for the experiential creation of connections and community. The advantages of this model include an accelerated development of a CoP, illustrations to assist in shared understanding and goals, and creating a safe and supportive environment. Healthcare groups and those who wish to teach compassionate care and who experience vulnerability in their work could implement this novel approach.

**Take-home Messages:** The development of authentic communities and interprofessional connections built through the experience are more likely to achieve our goal of promotion and delivery of compassion in healthcare. The use of graphic illustration allows for the experiential creation of connections and community.

## #10HH Posters - Humanities

### 10HH17 (2785)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Spirituality/Religiosity in Medical Education: a necessary approach

#### AUTHOR(S):

- Odenir Nadalin Júnior, Pontifical Catholic University of Paraná, Brasil (Presenter)
- Mary Rute Esperandio, Pontifical Catholic University of Paraná, Brasil
- Géssica Melina Hornung, Pontifical Catholic University of Paraná, Brasil

#### ABSTRACT

**Background:** The spiritual/religious coping methods are used to face stressful events in times when health is threatened. However, beliefs, practices, interpersonal relationships or experiences of the sacred can work as spiritual struggles. These struggles can predict negative mental health outcomes, like depression, worse compliance to treatment and increased mortality. It is important to approach spirituality/religiosity topics in medical education, teaching the professional how to integrate this human dimension in a positive way in therapy.

**Summary of Work:** This study is a quantitative research with 84 patients of a public mental health service in Curitiba (Brazil). Data was collected in 2017 using a socialbiodemographic questionnaire, in addition to the Brief Religious Coping Scale (SRC), Centrality of Religiosity Scale and the Religious and Spiritual Struggle Scale. This project aims to evaluate how spirituality/religiosity works in psychiatric patients, pointing out the necessity of teaching holistic (bio-psycho-social-spiritual) health care practices in medical schools.

**Summary of Results:** Data samples were mainly man (53.6%), between 20 and 65 years old, and were considered highly religious. Positive-SRC was considered high in 32.1% of the cases, and Negative-SRC was low about 35.7%. About including spiritual/religious aspects into medical treatment, only 11.9% had been asked by a health team member about spiritual/religious issues. Of the patients, 52.4% would like to discuss these issues with their doctors. 60.7% had brought some spiritual/religious questions to the therapeutic setting.

**Discussion and Conclusions:** Positive-SRC strategies are highly used by patients to face stress and suffering. That indicates spirituality/religion takes center stage in their lives, therefore it should be included in a therapy avaluation by professionals - moreover, it may interferes with ethical decision-making. It is necessary to include spirituality/religiosity topics in medical education, offering to the future professionals some approach strategies for a spiritual anamnesis that enables them in the humanized care exercise, being sensitive to the patients beliefs and practices.

**Take-home Messages:** Including spirituality/religiosity into medical education can be an important tool to help professionals to establish a better bond with their patients, increasing the compliance to treatment, mediating ethical conflicts and contributing to a humanized care.



## #10HH Posters - Humanities

### 10HH18 (1609)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Photography to facilitate the education of GP trainees

#### AUTHOR(S):

- Nicola O'Shaughnessy, GPEU, UK (Presenter)
- Sam Scallan, GPEU, UK
- Johnny Lyon-Maris, GPEU, UK

#### ABSTRACT

**Background:** The role of the arts in medicine has been the subject of research and there is recognition of the benefit of engaging with the arts and humanities on patient wellbeing and recovery from illness. This acknowledgment has been extended to doctors in training, with the arts finding a role at both undergraduate and postgraduate levels. This study looks at how photography can be used in teaching to explore 'being a GP registrar.'

**Summary of Work:** The GP registrars were in the last few months of their training (GPST3) prior to transitioning to independent practice. They were asked to answer the question "what does being a GP registrar mean to you?" by taking a photograph. The trainees shared the images in a facilitated small group teaching session (4 groups in total) and follow up feedback was gathered to evaluate learning. The data collection comprised: 1) A focus group with one small group; 2) Interviews with the programme directors running the groups 3) The photographs taken by the trainees.

**Summary of Results:** Detailed thematic analysis was undertaken: through the creation of codes the commonalities, differences and relationships within and between the data sets were examined, linking the images and transcripts. Three striking themes in the data were identified. These reflected their experience of being trainees and were: the core values of being a GP, resilience and wellbeing, and seeing their small group peers in new, and sometimes unexpected, lights.

**Discussion and Conclusions:** The teaching session was positively received by GPST3s and programme directors alike. The focus group and interviews allowed me to explore the impact of the opportunity to be creative and the learning they gained from it, as well as to evaluate the session. The creative element engaged the trainees and seemed to deepen the reflective discussions that followed.

**Take-home Messages:** This educational case study shows how the use of the arts, and photography in particular, in medical education can support the professional development of GP trainees and allow them to express their perspective on training. The session has been further developed and is part of our curriculum for the GP registrars.

## #10II Posters - Curriculum Development

### 10II01 (1247)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Renewal of Undergraduate MD Curriculum based on National Standards of Medical Education in Georgia

#### AUTHOR(S):

- **Gaiane Simonia, Tbilisi State Medical University, Georgia (Presenter)**
- Zurab Vadachkoria, Tbilisi State Medical University, Georgia
- Rima Beriashvili, Tbilisi State Medical University, Georgia
- Marina Mamaladze, Tbilisi State Medical University, Georgia
- Salome Voronova, Tbilisi State Medical University, Georgia

#### ABSTRACT

**Background:** Based on recently (2017) established National standards for undergraduate medical education in Georgia, Task Force for the renewal of MD curriculum has been started at Tbilisi State Medical University (TSMU). Currently TSMU runs traditional undergraduate curriculum with elements of vertical and horizontal integration - early clinical engagement of students in clinical activities (such as communication skills in yrs I and II), introducing Case-based Clinical Reasoning (CBCR) course for the 3rd year students and OSCE for the assessment of clinical skills.

**Summary of Work:** Innovation of Undergraduate MD curriculum integration matching community, national and global demands, has been considered as a key strategy for TSMU. Task Force was composed by members of Curriculum Committee, main stakeholders and students representatives. Development of the new curriculum was preceded by discussions with education leaders, members of Academic Council and faculty.

**Summary of Results:** The following integrated modules have been developed by the Task Force for innovated MD curriculum blueprint: Fundamentals of Life Sciences, Structure of Human Body, From Gene to Human Being, Homeostasis and Human Defense with Longitudinal courses - Becoming a Doctor, Clinical and Research Skills (Years I and II), Basics of Disease Development and Treatment, Introduction to Clinical Medicine and longitudinally CBCR (Year III), followed by clinical clerkships during Years IV and V, and preparing for clinical practice (residency) during graduating - VI year of study. Increasing number of elective courses have been introduced in renewed curriculum. Learning outcomes and relevant assessment methods have been strictly defined for each integrated module. Appropriate program for faculty development have been elaborated.

**Discussion and Conclusions:** Renewal of undergraduate MD curriculum at TSMU has been an important step towards harmonization with national and global standards and for improvement of quality teaching, learning and assessment at the University.

**Take-home Messages:** Renewed, revised MD curriculum with more integration, matching local and international standards was developed confirming need for permanent innovation of undergraduate medical education.

## #101I Posters - Curriculum Development

### 101I02 (1374)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluating students' experience in a revised basic science course with an emphasis on clinical relevance

#### AUTHOR(S):

- Irene Lee, Duke-NUS Medical School, Singapore (Presenter)
- Siang Hui Lai, SingHealth Duke-NUS AMC, Singapore
- Pei Yan Wong, National University of Singapore, Singapore

#### ABSTRACT

**Background:** We revised a first-year course entitled “Molecules, Cells, and Tissues” that was historically taught through a basic-science lens with little clinical correlation, via a flipped-classroom, Team-Based Learning (TBL) modality. We leveraged on a “conceptual coherence” framework that emphasizes the importance of creating relevant mental representations of clinical and basic science information, undergoing purposeful reorganization in order to better integrate basic science content with clinical learning. The “application” questions of the TBL sessions were rewritten with the explicit purpose of examining the underpinnings of basic science content, particularly the molecular and cellular pathways, and how it manifests in clinical conditions. The facilitated-discussion that followed in TBL revisited the key learning points in a clinically-orientated manner. We aimed to determine if the revision of the content and application questions, grounded by a “conceptual coherence” framework, better facilitated the learning experience according to students.

**Summary of Work:** To describe students' learning experience with the changes implemented, we used thematic analysis on the qualitative feedback provided by students in the course evaluations from academic year 2017/18 (pre-revision) and 2018/19 (post-revision). In addition, we compared students' course ratings on specific domains such as the perceived clinical relevance of the course, based on a Likert scale that ranged from 1 (Strongly disagree) to 5 (Strongly agree). The rating was compared against the previous cohort.

**Summary of Results:** The thematic analysis of the qualitative feedback identified the lack of clinical correlation as the major theme that surfaced in the 2017/18 cohort. Importantly, such perception was not identified in the 2018/19 cohort. Consistent with the well-perceived clinical relevance of the restructured course, ratings of the course's clinical relevance also increased from an average of 3.91 (SD 0.67) to 4.12 (SD 0.57) between the two years.

**Discussion and Conclusions:** Corroborating with the framework of conceptual coherence, providing explicit connection between basic science learning and clinical context also improved students' perceptions of the learning experience.

**Take-home Messages:** Supplementing explicit clinical correlation in application segment of Team-Based Learning enhances students learning of basic science content.

## #101I Posters - Curriculum Development

### 101I03 (3234)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Does longitudinal teaching in professional competencies better prepare students for clinical practice?

#### AUTHOR(S):

- Elise Pauline Skjevik, UiT The Arctic University of Norway, Norway (Presenter)
- Tor Anvik, UiT The Arctic University of Norway, Norway
- Eirik Hugaas Ofstad, UiT The Arctic University of Norway, Norway
- Unni Ringberg, UiT The Arctic University of Norway, Norway

#### ABSTRACT

**Background:** The medical faculty at UiT The Arctic University of Norway (UiT) revised its medical curriculum in 2012. A new group-based longitudinal mentoring program (all 6 years) includes mentoring, patient-centered communication training and ethical reflection. The objective of this study was to compare how new program 5th-year students' (NP) and old program 6th-year students' (OP) evaluated how teaching in communication and ethics had prepared them for clinical practice.

**Summary of Work:** This cross-sectional study was part of a larger survey evaluating study program and attitudes towards communication and ethics, and targeted all NP (n=96, 61,5% response rate) and OP (n=90, 53,3% response rate) medical students at UiT in the spring of 2017. Questions assessing the relevance of teaching in communication and ethics were largely quantitative using a 5-point Likert scale (5=most positive).

**Summary of Results:** NP students scored 17% higher than OP students when asked how teaching in communication had prepared them for clinical practice (4.41 vs. 3.77,  $p<0.05$ ). Likewise, the NP students scored teaching in ethics 11% higher (4.02 vs. 3.59,  $p<0.05$ ). In the open-ended questions, many NP students responded that experiential teaching in communication was essential in learning communication skills. Several OP students replied that the old program contained insufficient teaching in communication.

**Discussion and Conclusions:** Self-reported data indicate that medical students who are part of a longitudinal mentoring program feel better prepared for practice with regards to skills in patient-centred communication and ethical reflection. We believe that the core elements of this program, which is early introduction and continuity throughout medical school, are effective in preparing the students for patient-centered clinical practice.

**Take-home Messages:** It is essential to evaluate curricular revisions. A longitudinal systematic program in communication and ethical reflection makes students more prepared for clinical practice than scattered periods of training.

## #101I Posters - Curriculum Development

**101I04** (2792)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Institutional pedagogical project (IPP): participative process in the education of health professionals

#### AUTHOR(S):

- **Márcia Rosa da Costa, Universidade Federal de Ciências da Saúde de Porto Alegre, Brasil (Presenter)**
- Marta Quintanilha Gomes, Universidade Federal de Ciências da Saúde de Porto Alegre, Brasil
- Melissa Santos Fortes, Universidade Federal de Ciências da Saúde de Porto Alegre, Brasil

#### ABSTRACT

**Background:** Health professional education has been widely discussed recently with the aim of qualifying professional practices and meeting population health needs. In this context, collective creation of pedagogical projects and curricula is encouraged with a focus on the development of skills and teamwork throughout the education of medical and other health professionals. The IPP guides the educational practices by introducing epistemological and pedagogical conceptions. This report brings about reflections and data about the participative and dialogic construction process of an institutional pedagogical project (IPP) in a Brazilian public university.

**Summary of Work:** The dialogic method was developed with the participation of teachers, students and staff from 16 courses in the Health Sciences. The strategies used to prepare and analyze the IPP were: document collective reading and discussion in a virtual environment; face-to-face collective meetings with the community; face-to-face discussion forums in small groups on the different topics in the IPP. All data were systematized and the final document was presented to the community.

**Summary of Results:** The face-to-face forum was the most significant strategy. 782 participants, divided into groups, discussed: assessment (157); curriculum (129); humanization (72); inclusion processes (55); institutional internationalization (103); methodologies (96); the relationship between teaching, research and extension (110); and the actors of teaching and learning (60). The participants evaluated the process positively highlighting the importance of interaction and reflection upon the themes. They also suggested that the face-to-face forum should occur systematically for monitoring and evaluating the IPP implementation in order to guarantee the principles and objectives established for the university and its courses. Thus, it was set as a goal the monitoring of the implementation of the IPP.

**Discussion and Conclusions:** The face-to-face forum enabled the collective and collaborative debate by teachers and students on the curriculum and the education of health professionals. As an instrument of collective construction, it allows for the action-reflection-action process, being the best demonstration of autonomy and expression of the identity of a university community. (Freire, 1997; Sacristan, 2008; Harden, 2001).

**Take-home Messages:** The IPP becomes true when it is elaborated and shared by the academic community in an active process of collective development and evaluation of educational practices.



## #101I Posters - Curriculum Development

**101I05** (2851)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The learning of symptomatology in the first-year medical students is effective for better understanding preclinical medicine

#### AUTHOR(S):

- Eriko Okada, Tokyo Medical and Dental University, Japan (Presenter)
- Makoto Takahashi, Tokyo Medical and Dental University, Japan
- Yasuhiro Itsui, Tokyo Medical and Dental University, Japan
- Yuki Sumi, Tokyo Medical and Dental University, Japan
- Kumiko Yamaguchi, Tokyo Medical and Dental University, Japan
- Yujiro Tanaka, Tokyo Medical and Dental University, Japan

#### ABSTRACT

**Background:** In Japan, most students are enrolled in medical school directly from high school. They rarely study the preclinical medicine such as anatomy, biochemistry or physiology before their enrollment and in the first-year of medical schools for liberal arts. In the last four years, our first-year medical students should take the introduction courses to symptomatology with clinical reasoning for their better understanding preclinical medicine in the second year. In the course, small group discussion (SGD) and medical interview for clinical reasoning are carried out. In SGD, each student should present an assigned disease representing the common symptoms such as headache, chest pain, back pain, abdominal pain, cough, or short of breath.

**Summary of Work:** Two years after the course was implemented, the questionnaires of the second-year students suggest insufficient learning outcomes of the symptomatology course. To improve the learning outcomes of the students, a post symptomatology test (posttest) was introduced on the last day in first-year. The effectiveness of the posttest for the first-year students was evaluated by the questionnaires and the scores of the preclinical medical examinations in their second-year.

**Summary of Results:** Totally 458 students (229 with posttest in 2 years vs. 229 without posttest in 2 years) were studied in 4 years since the symptomatology course was started. The questionnaire of the students showed many positive opinions that there were particularly effective in learning anatomy, physiology and pathology. In terms of passing rate of the preclinical medicine exam, posttest group was significantly better in physiology (88.2% in the posttest group and 69.4% in the group without posttest ( $P < 0.05$ ), whereas the differences were neither significant in anatomy (81.2% vs. 69.9% ( $P = 0.06$ )), nor in pathology (92.6% vs. 84.3% ( $P = 0.06$ )).

**Discussion and Conclusions:** The symptomatology course with posttest in first-year may facilitate medical students for better understanding, at least, a part of preclinical medicine such as physiology in the following year.

**Take-home Messages:** The learning of symptomatology with posttest in the first-year medical students is effective for better understanding a part of preclinical medicine.

## #101I Posters - Curriculum Development

### 101I06 (2951)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of a hematology curriculum based on the cognitive load theory

#### AUTHOR(S):

- Samuel S Medina, University of Campinas, Brazil (Presenter)
- Fernando F Costa, University of Campinas, Brazil
- Joyce M Annichino-Bizzacchi, University of Campinas, Brazil
- Margareth C Ozelo, University of Campinas, Brazil
- Sara T O Saad, University of Campinas, Brazil
- Erich V Paula, University of Campinas, Brazil

#### ABSTRACT

**Background:** Hematology represents a comprehensive area of medical knowledge integrating basic and clinical sciences, requiring the interpretation of morphological and molecular diagnostic methods, and the recognition of a diverse range of clinical entities. Although medical students are exposed to hematology-related contents several times during their courses, the area is frequently quoted as “complicated”.

Cognitive load theory (CLT) assumes that if total mental effort required during learning exceeds the finite capacity of the learner’s working memory (WM), learning efficacy will be jeopardized. According to CLT, a proficient learner is one that incorporates knowledge into automated schemata, so that more room is left in WM for the incorporation of more complex knowledge.

**Summary of Work:** We present our experience using CLT framework to organize the hematology curriculum for a 6-year medical course.

**Summary of Results:** Activities were planned to allow (i) progressive increase of learning tasks complexity, by planned repetition of contents and use of schemata; and (ii) progressive increase in fidelity, by use of clinical vignettes, e-cases and supervised patient care. In 1st year, Chronic Myeloid Leukemia was used as an integrating theme for teaching basic science; in 3rd year, key pathophysiology concepts were presented using a flipped classroom strategy and self-guided assignments; during 4th year, simulated cases consisting of complete blood count reports and clinical vignettes were sent to students bi-weekly through a Moodle-based platform allowing immediate feedback; in 6th year, 3rd year contents were revisited using short videos, e-cases and self-guided assignments focused on the integration of pathophysiology and clinical knowledge, all used as background knowledge for daily case-based discussions in the outpatient clinic. Evidence of student engagement increase was obtained from institutional evaluations.

**Discussion and Conclusions:** Rational organization of curricula based on CLT framework, coupled with innovative teaching tools represent a simple and low cost strategy to improve student engagement and learning in hematology.

**Take-home Messages:** CLT framework based strategy, particularly in association with innovative teaching tools, may be considered as an option for planning curricula for undergraduate medical education in hematology.

## #101I Posters - Curriculum Development

101I07 (717)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Work-integrated learning opportunities and first-year university students' perceptions of employability

#### AUTHOR(S):

- Brooke Harris-Reeves, Griffith University, Australia (Presenter)

#### ABSTRACT

**Background:** Universities are attempting to respond to recent changes in the employment sector in order to ensure graduates are job ready. One approach for preparing students for the evolving employment sector is to expose them to work-integrated learning experiences during their undergraduate degree. Traditionally, work-integrated learning experiences have been offered toward the end of students' degrees, but there might be value in offering such opportunities as students' transition into university.

**Summary of Work:** The aim of this study was to explore the outcomes of brief work-integrated learning experiences on first-year university students.

**Summary of Results:** A series of paired samples t-tests showed significant differences in students' (N¼ 28, Mage¼ 18.89 years) perceptions of employability following exposure to 10-hours of job shadowing.

**Discussion and Conclusions:** The outcomes from the study suggest that students might benefit from work-integrated learning experiences in their foundation year of university.

**Take-home Messages:** For educators, our findings suggest that the inclusion of WIL experiences as students transition into university appears to be positive and effective for students. While WIL experiences are valuable for students as they transition through and out of their degrees, students should not be excluded from such opportunities during foundation years.

## #101I Posters - Curriculum Development

**101I08** (579)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Do medical students receive sufficient information in order to make an informed decision about intercalating?

#### AUTHOR(S):

- Hamisha Salih, University of Liverpool, UK (Presenter)
- Jayne Garner, University of Liverpool, UK

#### ABSTRACT

**Background:** The MBChB programme prepares students to become the doctors of tomorrow. Intercalated degrees provide an additional degree alongside the standard MBChB, which is mandatory in several medical schools across the UK. At our University, medical students are given the option to intercalate which proposes economic, educational and practical challenges. A previous literature search found that only 45% of students felt they had enough information to make a decision on whether to intercalate. It is crucial students are provided with relevant and accessible information for this important decision.

**Summary of Work:** An online survey was sent to 4th year medical students at our University (n=289) to explore whether they felt appropriate information on intercalating was provided, whilst also identifying what aspect of intercalating in particular they feel they lack information on. The survey incorporated Likert questions and open comment boxes. Thematic coding was utilised to analyse the qualitative data collected. Ethical approval for the study was granted by the University (2160).

**Summary of Results:** 64 students responded to the survey. The majority of the respondents (84%) would have liked to receive more information on intercalating. Only 64% of students felt confident that they had made the right decision to intercalate, with only 27% stating they had received sufficient information from the university about intercalating. The most common theme occurring from open comments was the need for more information on finance.

**Discussion and Conclusions:** Students raised issues regarding the amount and quality of information received about intercalation, suggesting increasing the information given, making it timelier and having a dedicated intercalation lead within the medical school. These results are of interest to other medical schools seeking to provide students with appropriate information regarding intercalation.

**Take-home Messages:** Intercalation is an important decision a medical student encounters in their career. It is imperative medical schools provide sufficient support and information for such decisions in order to prevent student dissatisfaction.

## #101I Posters - Curriculum Development

101I09 (3132)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Alfaisal Student and Faculty Perspectives toward the Role and Value of the Hidden Curriculum in Undergraduate Medical Education

#### AUTHOR(S):

- Sana Om Albachar Almairi, Alfaisal University, Saudi Arabia (Presenter)
- M Nour Eddien Almairi, Alfaisal University, Saudi Arabia
- Reem Mohamed, Alfaisal University, Saudi Arabia
- Rand Azouz, Alfaisal University, Saudi Arabia
- Tarig Fadul, Alfaisal University, Saudi Arabia
- Muhammad Raihan Sajid, Alfaisal University, Saudi Arabia

#### ABSTRACT

**Background:** The hidden medical curriculum is defined as an ever present part of all medical learning environments which differentiates between what is formally taught versus what students informally acquire during training. Given the huge impact of the hidden curriculum on medical education and the clear benefits of exposing it on self-growth and evaluation, exploring the role and value of hidden medical curriculum is valuable in medical education. This is a qualitative university-based study which aims to describe, evaluate and analyse Alfaisal medical students' and faculty perspectives toward the role and value of the hidden curriculum in medical education and training.

**Summary of Work:** Study population includes all current and previous Alfaisal medical students and Alfaisal medical faculty members. Convenience sampling was utilised, and a range of 24-36 students and 8-10 faculty members was accepted as a good sample. Participants were asked to attend one focus group discussion [students] or one semi-structured interview [faculty members]. All interviews were transcribed and analysed using inductive thematic framework analysis identifying the themes and subthemes related to the study objectives.

**Summary of Results:** A total of 24 students, 8 faculty members, and 4 teaching assistants participated in the interviews [50% females]. On initial analysis, five main themes emerged: needs for improvements in Alfaisal educational system, role of Alfaisal hidden curriculum in shaping student psychology, role of Alfaisal hidden curriculum in student academic performance, coping strategies utilised by student to face challenges in Alfaisal educational environment, and values emphasised in Alfaisal hidden curriculum.

**Discussion and Conclusions:** Based on our initial results, we believe that addressing the hidden curriculum is important for the development of medical students and for nurturing and upholding the values that we want to instil in our future physicians. Trends similar to those established in other hidden medical curricula in different universities and countries were identified in our study, indicating similar practices all over the world.

**Take-home Messages:** The significant impact of the hidden medical curricula on medical students during their education and training. Exposing the hidden curriculum to both students and faculty along with their self-reflection is necessary and beneficial.



## #101I Posters - Curriculum Development

### 101I10 (2196)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Themes in Curriculum Reforms in Dental Education: A Focused Review

#### AUTHOR(S):

- Emilie Leth Rasmussen, Aarhus University, Center for Health Sciences Education, Denmark (Presenter)
- Peter Musaeus, Aarhus University, Center for Health Sciences Education, Denmark

#### ABSTRACT

**Background:** Dental curricula are reformed because of societal, technological, research-based and political reforms at a national, international, and institutional (university, dental school) level. The aim of this study was to describe prevalent themes in dental curriculum reform processes that have taken place in the past five decades.

**Summary of Work:** Using PubMed, Embase, ERIC and Web of Science, a systematic literature search to identify studies of curriculum reform and programs was conducted. Search terms were curriculum reform, curriculum development and curriculum change with dental. Abstracts from 660 peer-reviewed articles published in English, Scandinavian languages, German, Spanish, French and Portuguese were chosen for screening. These were screened for relevance through abstract and title, whereby 536 were excluded, as abstract or title did not meet the criteria for inclusion or decreased for exclusion criteria. Finally, 124 articles were chosen for review.

**Summary of Results:** Ten themes relating to competences were identified: (1) Academic/scientific focus; (2) Digitalization; (3) Internationalization; (4) Geriatric dental care; (5) Interdisciplinary and team cooperation; (6) Business and transition to practice; (7) Sustainable dental care; (8) Local community and value creation; (9) Integration and Early Clinic; (10) Electives.

**Discussion and Conclusions:** The reviewed empirical articles ranging from case studies to experimental studies showed a trend in dental curriculum reform reflecting societal concerns over an increasingly global, elderly and technological society. However, a significant amount of the reviewed articles was not explicit or indeed strong on stating which empirical methods or analytic methods were employed to characterize the curriculum research studies. This means that some of the reviewed studies suffer from lack of trustworthiness of findings, which makes it difficult to assess and discuss the nature of trends in dental curriculum.

**Take-home Messages:** Curriculum change is a process driven by many political and institutional interests. However, it seems to yield specific themes that are goals for the process. This review does not evaluate whether the ten identified themes are entirely new or how well they have been implemented in dental teaching practice. However, the identified themes provide a guideline for curriculum developers wanting to reform the dental curriculum.

## #1011 Posters - Curriculum Development

10111 (3091)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The Value of Geographic Information Systems in Primary Healthcare as a Tool of the Enriched Medical Curriculum with Health Information Technologies

#### AUTHOR(S):

- Jessica Ortiz Huerta, Technische Hochschule Deggendorf, European Campus Rottal-Inn, Brazil (Presenter)
- Camila Satie Tomikawa, Technische Hochschule Deggendorf, European Campus Rottal-Inn, Brazil
- Oscar Blanco, Technische Hochschule Deggendorf, European Campus Rottal-Inn, USA
- Myrna Leticia Montemayor Flores, Facultad de Medicina, Universidad Autónoma de Nuevo León, Mexico

#### ABSTRACT

**Background:** Measuring inequality and equity in health systems is a challenging task for many countries. Information Communications technologies, now ubiquitous, can help to overcome the health challenges and disparities by connecting the “problem” area with the world. Access to healthcare has improved with the internet, and every day remote access to health experts shortens the gap between rural and urban services. Primary healthcare as the bottom of the pyramid is one of the services that could be most improved through Computer-Based and remote systems. Every country that has inequalities in health services could benefit from many solutions.

**Summary of Work:** Health Workers and Medical Interns in different primary healthcare facilities in rural areas were questioned of the existence of GIS in Healthcare and their experience/knowledge with it.

**Summary of Results:** There was a lot of interest regarding the topic, but unfortunately, no training experience (undergraduate nor postgraduate).

**Discussion and Conclusions:** The digital and healthcare services gap observed in rural areas is of great use to explore the tools now available in creating geospatial solutions. The benefits from approaching the bottom of the pyramid with these solutions could reflect directly in the daily reports from the health workers, facilitating the national epidemiological strategy and future planning. Geospatial planning and health policymaking is a strategy followed to manipulate data and analyze it geographically through Geographical Information Systems (GIS) by some countries with different stages in preparation and application of their programs, measuring the impact how those strategies in this emerging technology are working towards reaching their health goals.

**Take-home Messages:** Providing digital skills to the health workers as postgraduate or undergraduate training to use such tools, is a simple task that could bring immediate added value to the efforts done in a specific community. The training and knowledge from the uses of GIS in health should not be limited to the specific postgraduate training but also (be) included as a part of the enriched Medical curriculum with Health Information Technologies in the near future.

## #1011 Posters - Curriculum Development

101112 (2840)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Spaced learning in medical education: Is it time for an instructional revolution?

#### AUTHOR(S):

- **Marnix Timmer, Center for Innovation in Medical Education, Leiden University Medical Center, the Netherlands (Presenter)**
- Marjolein Versteeg, Department of Cardiology, Leiden University Medical Center, the Netherlands
- Renée Hendriks, Center for Innovation in Medical Education, Leiden University Medical Center, the Netherlands
- Alik Thomas, Center for Medical Education, McGill University, Canada
- Paul Steendijk, Department of Cardiology, Leiden University Medical Center, the Netherlands

#### ABSTRACT

**Background:** Medical students often struggle to recall declarative knowledge acquired during their medical training. A possible solution for addressing this problem is to apply the principles of the spacing effect which consists of distributing and repeating information over time in order to improve knowledge retention. Despite the importance of this phenomenon in health professions education (HPE), it is unclear how it has been discussed in existing literature. The aim of this scoping review was to map the definitions, applications and related theoretical frameworks of spaced learning as reported in the HPE literature.

**Summary of Work:** We used Arksey and O'Malley's five-step methodological framework. A literature search was performed in five databases using spaced learning and associated terms. Two reviewers independently screened articles for eligibility using pre-established inclusion criteria. Extracted data were analysed using both numerical and thematic approaches.

**Summary of Results:** Of the 2972 records retrieved, 103 articles were included in the review. Besides the term spaced learning, we found an additional 20 terms with a total of 74 different definitions. Almost half of the articles (n = 45) did not report a conceptual framework. In the remaining articles, the spacing and testing effect dominated the literature. The minority (n = 15) explicitly based their spacing protocol on previous literature. Application of spaced learning in online settings (e.g. sending students automated emails with quizzes) was reported most frequently (n = 51).

**Discussion and Conclusions:** Spaced learning is poorly and infrequently defined in the HPE literature. The current literature mainly targets the practice phase of learning, whereas research on the instructional phase is limited. Future research should target the instructional phase given existing evidence from neuroscience which suggests that spacing instruction could also benefit retention. Transparency of study procedures could promote operationalization of spaced learning and clearer definitions. Outlining the boundaries of the concept of spaced learning could contribute to educational practice and research.

**Take-home Messages:** • There is need for a clear definition and complete study protocols of spaced learning in health professions education research. • We may invest in research that explores the usefulness of spaced learning in the instructional phase.

## #1011 Posters - Curriculum Development

**10113** (1954)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Socially Responsible Behaviour in Medical Students: An inductive approach

#### AUTHOR(S):

- **Nancy Bastias, Universidad de Concepcion, Chile (Presenter)**
- Mary Jane Schilling, Universidad de Concepcion, Chile
- Cristhian Perez, Universidad de Concepcion, Chile
- Debora Alvarado, Universidad de Concepcion, Chile
- Paula Parra, Universidad de Concepcion, Chile

#### ABSTRACT

**Background:** Social responsibility is the ability to integrate the care of others, de care of the environment and care of oneself in individual behavior. This behavior depends on the role that people play in society. Although there are researches on socially responsible behavior in Chilean university students, these results do not consider the peculiar characteristics of medical students.

**Summary of Work:** The present research aimed to identify socially responsible behaviors expected in medical students. A non-experimental study was carried out. 262 medical students were surveyed (67.7% were women). They answered open questions about what behaviors they consider as socially responsible for medical students. Thematic content analysis was performed. This study was funded by VRID grant 216.090.005-1.0.

**Summary of Results:** 43 categories about socially responsible behavior in medical students were identified. They were grouped into three major themes: responsibility in academic performance, social commitment and ethical behavior.

**Discussion and Conclusions:** Results show that the adequate fulfillment of academic requirements is the category that students associate most directly with social responsibility. However, social responsibility is also linked with social environment in which they live. Likewise, the development of an ethical relationship with other is part of what they consider as socially responsible. No allusion to environment protection was identified.

**Take-home Messages:** Social responsibility in medical students implies to worry about their training without neglecting their link with the social environment and the values expected in a doctor.

## #1011 Posters - Curriculum Development

101114 (3010)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Public Health Community Projects for Medical Students

#### AUTHOR(S):

- Selma Omer, University of Southampton, UK (Presenter)
- Robin Poole, University of Southampton, UK

#### ABSTRACT

**Background:** Medical students are often involved in community oriented activities before starting their studies but rarely have the opportunity to renew their passions and pursue old interests in a medical context as part of their medical training. The UK's General Medical Council (GMC) outcomes for graduates emphasize the development of knowledge of population health and its determinants and variations of health care delivery and professional values including leadership and team working.

**Summary of Work:** This project was started to offer medical students a unique opportunity to work as a small team in conjunction with a charitable local community organization on a Public Health themed project that relates to the curriculum. We approached 1st year medical students via a lecture pitch to pilot the community engagement project and selected six candidates after a simple application process. We developed a short training program for students that provided them with opportunities to; 1) increase their understanding of the public health and the wider determinants of health 2) further develop leadership, project management and team working and skills and 3) receive support from a mentor.

**Summary of Results:** A team of students worked with Juvenile Diabetes Research Foundation. Following a needs assessment and focus groups with grandparents of grandchildren with Type 1 diabetes, students developed an information resource tailored to suit their needs. The JDRF team valued the students' contribution and plan to use the leaflet their KIDSAC - an information pack given to every child in the UK newly diagnosed with type 1. Preliminary evaluations show that the students were positive about the experience. We are exploring the students' motivations and perceived benefits or barriers in participating in community projects as part of their medical training.

**Discussion and Conclusions:** Participating in community projects can help medical students to develop transferable skills, as prescribed by (GMC) learning outcomes, outside of the familiar clinical setting whilst contributing value to their local patient community. This pilot can serve as a model for establishing similar opportunities in medical training.

**Take-home Messages:** Integrating community based projects in medical training can engage students with their local patient community and enable them to develop key professional values.



## #1011 Posters - Curriculum Development

101115 (2735)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

**In what ways may a concept of social accountability affect curriculum development in medical school - comparing two schools: one in East London and one in Western Australia**

### AUTHOR(S):

- Lucas Jullian, Barts & The London School of Medicine and Dentistry, UK (Presenter)
- Sandra Nicholson, Barts & The London School of Medicine and Dentistry, UK

### ABSTRACT

**Background:** Major governing bodies (“Aspire Initiative” and the “Global Consensus for Social Accountability of Medical schools (GCSA)”) have gathered the experience of hundreds of individuals with a responsibility in policy-making, to develop a consensus regarding the strategies that medical schools should adopt to improve their quality, equity, relevance and effectiveness in healthcare delivery, aiming to become social accountable. Our study would provide a qualitative perspective, and investigate how these concepts materialise in concrete efforts and initiatives in medical schools’ curricula. Our study would explore the educational efforts made by universities in order to transform their intention to incorporate local health needs in their curriculum into practice, as per the recommendations developed by the Aspire Initiative and the GCSA guidelines.

**Summary of Work:** Document template analysis was performed on the GCSA Guidelines and ASPIRE initiatives regarding social accountability. This was done to form a framework for our approach towards the interview and document analysis. Thematic analysis of the documents pertaining on curriculum development and educational initiatives in each respective medical school to investigate the degree to which general principles on social accountability have been implemented. Thematic analysis of the semi-structured interviews of the participants.

**Summary of Results:** Two medical schools were recruited (Barts & The London, East London; and Curtin University, Perth), chosen due to their commitment to social accountability. 6 Participants (3 from each school) were chosen for their expertise in medical education and their involvement in the most recent curriculum development of their medical faculty.

**Discussion and Conclusions:** Interviews/document analysis were useful in highlighting the different ways that social accountability is understood, and the impact of the local environment on the materialisation of social accountability recommendations.

**Take-home Messages:** Medical schools providing evidence regarding their successful implementation of general recommendations put forward by international governing bodies into their curriculum is incredibly useful for future medical schools interested in becoming more socially accountable, as it shows evidence that social accountability initiatives can be successfully implemented in a curriculum and have a significant impact on their graduates. We encourage more medical schools making their operationalisation of social accountability in their curriculum public to influence more faculties to make the first step.

## #10JJ Poster - Teaching and Learning 2

**10JJ01** (1126)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Let us Pecha Kucha together: “New for all” group-work intervention to achieve integration

**AUTHOR(S):**

- Albertina Menezes Velho, University of Warwick Medical School, UK (Presenter)

**ABSTRACT**

**Background:** Globalisation and Internationalisation in the 21st century, has contributed to increasing diversity in our learning spaces. As a passive observer, I noticed students preferred their own cliques in an undergraduate health studies class. Also, there was lack of learning-space integration among ethnic minority and majority students. Health related pedagogy, that does not promote intercultural dialogue, respect for diversity or innovation and integration of learners could significantly affect requisite skills of future health workers.

**Summary of Work:** Pedagogical approaches, flipped-classroom and a “new for all” student-centred activity, were used during shared learning in an undergraduate health studies class. Pre-intervention data suggested, students lacked insight into the use or applications of Pecha Kucha, a freely available online digital presentation tool. To promote inclusive pedagogy, Pecha Kucha as the “new for all” activity was integrated with a novel yet simple 4-I interactive pedagogic tool designed by this study author - 1) Introduce the application of “new for all” activity during the student-centred task e.g. in random groups, 4-5 students, prepare and present to peers a group Pecha Kucha on a particular learning outcome, 2) Involve learners in a peer-peer dialogue during the shared task, 3) Interrogate task objectives collectively, and 4) Interact with peers to recall knowledge, encourage intercultural dialogue and integration.

**Summary of Results:** Qualitative and quantitative data was analysed by comparative approach with separate analysis performed on pre- and post-intervention anonymous questionnaires, classroom discussion forums and tutor observation notes. Data suggests, the “new for all” student-centred intervention and the 4-I interactive pedagogic tool innovated pedagogy through peer-peer dialogue and positive learning, because there was no advantage of some learners over others.

**Discussion and Conclusions:** Pecha Kucha as a “new for all” activity combined with the 4-I interactive tool achieved integration through shared learning by challenging all learners to collaborate and learn. Simple pedagogic interventions can innovate pedagogy, prevent clique formation, increase learner satisfaction and interaction.

**Take-home Messages:** Any “new for all” pedagogic activity combined with the study authors 4-I interactive tool can remove advantage of some learners over others, thereby promoting positive peer-peer learning and integration during a shared learning process.

## #10JJ Poster - Teaching and Learning 2

### 10JJ02 (3454)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Bringing Clinical Consultation to Developing Teaching Workshops in Psychiatry

#### AUTHOR(S):

- **Allys Guerandel, University College Dublin, Ireland (Presenter)**
- Maria Kelly, University College Dublin, Ireland
- Darren Roddy, University College Dublin, Ireland
- Abbie Lane, University College Dublin, Ireland

#### ABSTRACT

**Background:** The Psychiatry component of the Professional Completion Module (PCM) is the final module in psychiatry before the students qualify as doctors. It focuses on preparing the students for their Internship year. It consists of an E-learning unit and a workshop which is conducted in St. Vincent's University Hospital, Dublin, Ireland. The total class of approximately 240 students is divided into 3 groups of 80 who attend for the workshop on 3 separate days.

**Summary of Work:** After consultation with the current interns, the liaison psychiatry team, together with feedback from the tutors delivering this module we revised the PCM to incorporate their suggestions. A common theme in feedback was to make the learning experience more relevant to clinical tasks. Therefore, we updated the content and delivery of the workshop providing learning material which engages the students and draws on the knowledge they have learned in previous psychiatry modules. We also made the workshops more interactive with students working in pairs to collaborate on clinical scenarios with facilitation and discussion led by the tutors delivering the workshops. Thus making the experience more practical in preparation for their Internship year.

**Summary of Results:** We collected feedback from the students at the end of the final workshop using a validated questionnaire (Course Evaluation Questionnaire). The results of this feedback were very positive overall. The module scored highly in: relevance, interesting content and usefulness. However, we may need to improve on developing the students' ability to work as team members and confidence investigating new ideas going forward.

**Discussion and Conclusions:** Consultation with clinicians made the content of the workshops more relevant in preparing the students for the work in their Internship year. This has helped in contextualising this learning piece which has resulted in improved student engagement and attendance compared to previous years.

**Take-home Messages:** 1. Consultation with clinicians is essential to improving clinical teaching effectiveness. 2. Student attendance reflects the relevance of clinical teaching.

## #10JJ Poster - Teaching and Learning 2

10JJ03 (2068)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### How a UK children's hospital summer school influences attitudes to careers in paediatrics amongst medical student and foundation doctors

#### AUTHOR(S):

- Craig Knott, Great Ormond Street Hospital, UK (Presenter)
- John King, UCL Great Ormond Street Institute of Child Health, UK
- Jonathan Smith, Great Ormond Street Hospital, UK
- Justin Poisson, Great Ormond Street Hospital, UK
- Paul Winyard, UCL Great Ormond Street Institute of Child Health, UK
- Sanjiv Sharma, Great Ormond Street Hospital, UK

#### ABSTRACT

**Background:** Recruitment to UK paediatric training has seen a 27.5% drop over the last three years, with significant depletion on the trainee workforce. Many UK bodies have led initiatives to highlight the positives of the speciality and encourage applications including the successful #paedsrocks twitter campaign. There is a need to provide further sources of careers inspiration and guidance to potential applicants to encourage careers in paediatrics further.

**Summary of Work:** We developed a 3-day Paediatric 'Summer School' together with children's hospital specialists, general paediatricians, researchers, academics and educators. The programme consisted of speciality experts describing their work and exciting innovations in their field, careers panels, interactive QI and leadership group-work, and sessions delivered by former or current patients. To assess the impact this initiative had on perceptions of paediatrics and career intentions we sent a 9 question survey to attendees.

**Summary of Results:** 55 medical students and foundation doctors attended the summer school. Medical students attended from 16 different UK medical schools, and 2 international students attended. 28/55 participants completed the survey. Attendees were asked to score their likelihood of a career in paediatrics on a 5-point Likert scale. The mean score before and after the summer school showed a statistically significant increase - 3.86 vs 4.68 ( $p=0.002$ ). Sessions about subspecialties and the careers sessions made attendee had the biggest impact on likelihood of applying for a career in paediatrics. 44% felt long working hours were the biggest factor putting them off the speciality.

**Discussion and Conclusions:** There is a need to engage medical students and foundation doctors in order to foster positive attitudes towards paediatric careers and large tertiary children's hospitals and academic institutions are well placed to do this. The number of medical schools represented, suggests this is not being adequately provided locally. Our summer school shows this approach appears to have a positive impact on medical students and foundation doctors.

**Take-home Messages:** #paedsrocks

## #10JJ Poster - Teaching and Learning 2

### 10JJ04 (1781)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Effects of integrations of stroke patients, family and multidisciplinary team's perspectives compared with traditional-style lecture on student learning outcomes in stroke rehabilitation course

#### AUTHOR(S):

- Anon Sathapornsathid, Medical Education Center Ratchaburi Hospital, Thailand (Presenter)
- Sudarat Wijitsetthakul, Medical Education Center Ratchaburi Hospital, Thailand

#### ABSTRACT

**Background:** In successful stroke rehabilitation, collaboration between doctors, patients, families, and multidisciplinary team are very important. Learning from their perspective can offer opportunities to develop authentic and holistic learning experiences for medical students and enhance good attitude in patient care and working as a team. However, this learning strategy has never been used with medical students at Ratchaburi Hospital before.

**Summary of Work:** This study was conducted on 59 fifth-year medical students in 2017( 32 students) and 2018 ( 27 students). Students in both groups were similar in baseline characteristics. Both groups received traditional-style lecture on stroke rehabilitation. After lecture in 2018 group, stroke patients, families and multidisciplinary team were invited to join the class. Multidisciplinary team consist of physical therapist, occupational therapist, speech therapist and rehabilitation nurse. Patient and family gives perspectives about stroke from their experiences from the beginning and progression of recovery, proper medication use, exercise program, psychological adaptations, environmental adaptations and social reintegration. Also multidisciplinary teams share their perspectives about treatment goal and experiences from this patient. After finishing the class, both groups were tested with MCQ and MEQ questions, graded satisfaction and opinions about learning.

**Summary of Results:** Students in group with integration of perspectives received a better score in examination  $89.6 \pm 5.8\%$  vs.  $84.2 \pm 8.0\%$  ( $p = 0.0053$ ), better overall satisfaction  $92.0 \pm 5.9\%$  vs.  $79.2 \pm 10.4\%$  ( $p = 0.003$ ). From most of opinions, students think integration of perspectives make them understand patients better, have more confidence to apply knowledge with patients and acknowledge the importance of teamwork.

**Discussion and Conclusions:** This study showed that integration of perspectives helped students to link knowledge learned earlier with real patients. Thus learning was practical, more focused and more meaningful and also helped students understand biopsychosocial aspects of patients' lives and model of multidisciplinary staff work together as a team. Integrations of stroke patients, family and multidisciplinary team's perspectives is more effective than traditional lecture on student knowledge, satisfaction and student have better attitude in patient care and working as a team.

**Take-home Messages:** Medical education center should encourage integrations of patients, family and multidisciplinary team's perspectives in the future.



## #10JJ Poster - Teaching and Learning 2

10JJ05 (904)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Participatory Action Research for Developing Learning Autonomy for Senior Nursing Students - A Case Study of Community Cross-discipline of Disaster Health Care Alliances

#### AUTHOR(S):

- Shiu-Yun Fu, Department of Nursing, Fu Jen Catholic University, Taiwan (Presenter)
- Huang-Chou Chang, Fu Jen Catholic University Hospital, Fu Jen Catholic University, Taipei, Taiwan
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- I-Ling Lin, Department of Nursing, Fu Jen Catholic University, Taiwan, Taiwan

#### ABSTRACT

**Background:** The background of the study originates from problems encountered by students in learning disaster health care course modules, including the impact of individual learning motivation on their study outcomes, the dilemma of inter-disciplinary resource links, and the widening of autonomous learning topics which enhance the teaching goals. We will use the participatory action research theory to address the direction of motivational enlightenment and “technical, government and academic cooperation into the spirit of 3C (Care, Concern, Compassion) and to concentrate on disaster health ethical issues and cultural differences to achieve the required goal of research.

**Summary of Work:** The objectives of the research include: 1) nurturing senior students in acquiring knowledge and skills in disaster care and improving their ability to judge a crises or tragedy, and enhancing their learning effectiveness in disaster health care; (2) strengthening the motivation of nursing students and bringing the results of resource networks into the practice of the teaching design- in order to seek more appropriate designs for student learning and for more efficient teaching strategies.

**Summary of Results:** This research process includes qualitative and quantitative data analysis. The results will include a greater understanding the students learning circumstances and the continuing process in the development of their systematic study and learning motivation; participatory action research on the educational programs of cross-disciplinary professional team alliances; changes in autonomous learning behaviors and the motivation to explore results in depth; practical reflection reports, localized education programs established, and research findings published.

**Discussion and Conclusions:** Through this protocol, innovative teaching programs are designed to provide educators with competencies to enhance the motivational objectives of senior nursing students. Furthermore, they learn about the importance of professional roles in the community and to augment their communication and coordination skills when they affiliate with the cross-sector alliance. This will result in strengthening cross-disciplinary inter-professional alliances, in their respective professional fields and place value on the orientation of senior students and can clearly guide the direction for future research.

**Take-home Messages:** 1. Enhance the motivational objectives of senior nursing students. 2. Improving senior nursing students ability to judge a crises or tragedy. 3. Strengthening cross-disciplinary inter-professional alliances.

## #10JJ Poster - Teaching and Learning 2

### 10JJ06 (507)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Integration of Professionalism, Health Economics and Evidence-Based Medicine: a New Learning Method in Radiology

#### AUTHOR(S):

- Chalakot Dejarkom, Buddhachinaraj Medical Education Center, Thailand (Presenter)
- Kosa Sudhorm, Buddhachinaraj Medical Education Center, Thailand
- Pornpimon Kasemsook, Buddhachinaraj Medical Education Center, Thailand

#### ABSTRACT

**Background:** In spite of teaching by lecture, reading and interpreting radiographs as usual, we had created a new learning method in the course of radiology. This research aimed to evaluate the medical students' attitudes towards this learning method.

**Summary of Work:** Fifth year medical students in Buddhachinaraj Medical Education Center who took elective course of radiology in the academic year 2018, had learned a two-hour class by integration of professionalism (communication skills and humanism by role play), health economic, journal reviews and finally, case discussion with instructor. At the end of the course, their attitudes were surveyed with using five rating Likert scale questionnaires. The data were analyzed by mean, ranking and t-test.

**Summary of Results:** Forty-one students (100%) had completed the questionnaires. The mean level of attitudes were high (3.41-4.20) for all items. The three highest score were instructor feedback (4.15), attractive (4.07) and learning atmosphere (4.07). They felt their knowledge significantly gain from 2.68 to 4.02 (p-value <0.001). The problem of this method was excessive time using on journal reviews.

**Discussion and Conclusions:** The instructor feedback had highest attitude because they had effective feedback and the student felt free to discuss with instructors. This method was attractive and had good learning atmosphere due to good preparation, good teamwork and the student could create the thinking process by role play. The journal reviews took excessive time because there were many journal items.

**Take-home Messages:** Our new integrated course is the good choice study method. Furthermore we will add on game-based learning in this method.

## #10JJ Poster - Teaching and Learning 2

10JJ07 (1625)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Health service and sexual education - pilot implementation in 2nd-year medical students in Reims

#### AUTHOR(S):

- Marie Laurent, Reims Faculty of Medicine / CEMR, France (Presenter)
- Evan Gouy, Reims Faculty Of Medicine, France
- Chloé Castagna, Reims Faculty Of Medicine / CEMR, France
- Margot Lafolie, Reims Faculty Of Medicine / CEMR, France
- Jean Baptiste Oudard, Reims Faculty Of Medicine, France
- Bach-Nga Pham, Reims Faculty Of Medicine, France

#### ABSTRACT

**Background:** CanMEDS framework suggests six roles for a medical expert including those of communicator and health advocate. Solutions had to be found to develop these skills during medical studies in France. Supported by the Reims Faculty of Medicine and French National Association of Medical Students, the Reims Medical Students Association launched the Sexuality Education Project (EALS) in 2017-2018.

**Summary of Work:** The aim of EALS was to send pairs of medical students to work in high school classes to address topics related to sexuality in a playful form and to debate social issues. Students were trained in content and communication ; examples of activities, summary documents and an exchange group were made available. To prepare the sessions, pupils completed a preliminary questionnaire to find out their expectations (among STIs, contraception, respect, pornography, gender in society, feelings of love, sexual orientation, stereotypes, consent, ...) and knowledge. Evaluation questionnaires were completed after each session by students and pupil. A debriefing was planned after each session for the students and board.

**Summary of Results:** 274 pupils in 16 groups conducted 2 sessions of 2 hours each. Subjects particularly requested were respect, feelings of love, contraception and consent. Many questions were also asked by the pupils. In post-session questionnaires, more than half indicated that they were interested or thought-provoking. The majority were satisfied with the content offered, the richness of the exchanges and the animation quality. The playfulness was greatly appreciated. There was an improvement between the 2 sessions following the debriefing and the improvements made to the preparation of the sessions. The majority of the students considered that the experience had added value to their training.

**Discussion and Conclusions:** Sort of peer education due to the generational proximity between medical students and pupils, we believe that EALS is an interesting solution to convey key ideas to pupils in an interactive way and provide students with communication and public health skills. Moreover, this project served as a pilot for the health service planned in all French medical schools in 2018.

**Take-home Messages:** Sometimes, the best way to make students want to learn is to support their projects in themes that are close to their hearts!

## #10JJ Poster - Teaching and Learning 2

10JJ08 (347)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Developing a Geriatric Palliative Workshop: Responding and meeting the Health Professionals' Needs

#### AUTHOR(S):

- Allyn Hum, Tan Tock Seng Hospital, National Healthcare Group, Singapore (Presenter)
- Wah Ying Ong, Dover Park Hospice, Singapore

#### ABSTRACT

**Background:** Ideally, all healthcare professionals should be trained to care for patients suffering with dementia across its spectrum of severity, including at the end stage. Unfortunately, many have limited, or even no training in palliative care for serious illnesses, including in advanced dementia.

**Summary of Work:** To develop and refine a geriatric palliative workshop designed to equip healthcare professionals with basic knowledge of geriatric and palliative care. In integrating the knowledge of both specialties, the secondary aim was to enable practical application of palliative care for advanced dementia patients. A blended learning, flipped class model was developed for the workshop. Pre workshop articles and didactic lectures were combined with case based discussions and role play. The 2 day workshop was designed after conducting a series of didactic lectures over a 3 year period with healthcare professionals in various healthcare settings. The workshop was conducted in Thailand and Singapore by an interdisciplinary geriatrics and palliative team. Anonymous surveys were completed at the end of the workshop by study participants to assess effectiveness of the course.

**Summary of Results:** All course participants in Singapore completed the survey (n=45). 78% strongly agreed that learning objectives were met, rating the effectiveness of the course as 4.7 (Maximum score:5). 76% strongly agreed that the coverage and depth of the course was adequate, rating it as 4.73. They appreciated that the facilitators were interdisciplinary, that it was highly interactive and participative, with lectures based around problem solving. Patient centred care as the educational outcome was highlighted. Role play as part of communications and group work were elements of the course which appeared to play a role in understanding and responding to the needs of patients suffering with advanced dementia. 73% of participants surveyed strongly agreed that the concepts and skills learnt in the course were relevant to their work.

**Discussion and Conclusions:** An interdisciplinary geriatric palliative workshop integrating different forms of andragogy may aid learning of new skills.

**Take-home Messages:** A blended learning, flipped class model adopted by an interdisciplinary team in a geriatric palliative workshop helps to integrate palliative care knowledge and skills, enabling healthcare professionals care for advanced dementia patients.

## #10JJ Poster - Teaching and Learning 2

10JJ09 (3404)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Designing a teaching programme for nursing staff on a frail and functional psychiatry ward using single best answer assessments and small group teaching sessions

#### AUTHOR(S):

- Zara Sheikh, NHS, UK (Presenter)
- Ruben Thumbadoo, NHS, UK
- Hema Ananth, NHS, UK

#### ABSTRACT

**Background:** There has been a huge drive in mental health to address the physical health of mental health patients and to prevent diagnostic overshadowing. Whilst working on a frail and functional elderly care ward, we discovered that psychiatry nurses have not been given the training to assess and manage physical health but are expected to do so nonetheless. In order to address this, we trialled a teaching programme which was delivered by doctors to the nursing staff.

**Summary of Work:** The teaching programme was delivered in a lecture based format with small group sessions, participants were given 10 case based single best answer questions to work through before and after a teaching session on hypertension. Each case was designed to represent scenarios staff may be faced with at work. This assessed knowledge of hypo/hypertensive emergencies, diagnosis and management of hypertension, and when nursing staff should escalate to doctors. Furthermore, we included the physiology of hypo/hypertension in order to provide context to the interpretation of blood pressure readings.

**Summary of Results:** After the teaching sessions were delivered, the mean single best answer scores increased from 49% to 89% ( $P < 0.01$ ). 80% of participants felt the teaching was very useful to their clinical practice and 20% felt it was useful. Staff felt it was a reciprocal teaching environment and 100% said they would like more teaching from doctors. Qualitative feedback was also very positive, 'Very informative, delivered in a way appropriate to the staff, embellished concepts when required', 'beneficial to our clinical practice, enhanced my knowledge of blood pressure management'.

**Discussion and Conclusions:** This project allowed us to evaluate doctor to nurse teaching methods, we found that interactive tutorials created a positive team dynamic and enabled nursing staff to clarify any misconceptions in an informal environment. As well as improving patient safety, teaching programmes like this can inspire staff to seek development opportunities and encourages continued learning.

**Take-home Messages:** 1. Optimising physical health in mental health patient is important 2. The lack of physical health training given to mental health nursing staff can be successfully supplemented by doctor led teaching programmes and this should be trialled in other specialties.



## #10JJ Poster - Teaching and Learning 2

**10JJ10** (645)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Changing the way of hospital library service in facilitating medical humanity and holistic care education in the transforming era

#### AUTHOR(S):

- Yun Chen, Far Eastern Memorial Hospital, Taiwan (Presenter)
- Pei-Chun Lin, Far Eastern Memorial Hospital, Taiwan

#### ABSTRACT

**Background:** In coping the need of holistic care and medical humanity (MH) education in 21 century, the hospital library should changing their service way. We instilled a MH program in our library and hope through this new role and soft environment of library to establish learners the meaningful learning actions and reflections by using experiential learning.

**Summary of Work:** We designed a program with a series of MH session incorporate MH book resources exhibition and expert lecture in different subject including cardiovascular, transplantation, dementia, etc. The sessions included the historical library resources exhibition, film festival broadcasting about related topics and providing a master talk from each special field to share the holistic care experiences at our medical library. Questionnaire to evaluate participants' satisfaction and reflections was collected.

**Summary of Results:** Learners' feedback on overall activity gave a very high satisfaction rating 5 (5-point scale). Over 98.5% of participants were satisfied with the library exhibition which can understand more about the library resources and literature retrieval system in MH and strengthen the attitude and capability in lifelong learning. Moreover, through the expert talk 95% of participants can experience the MH style, apply the empathy and respect about life, as well as use positive attitude to face the adversity and keep the medical enthusiasm on holistic care.

**Discussion and Conclusions:** We incorporate library resource and lecture to induce participant's reflections in MH and holistic care. Through activities they can find the adequate library resources and connect to MH and care experiences. 95% participants thought this program can induce self-learning desire and create the connections with their previous holistic care experiences. All of them would like to recommend this program to other fellows. Through using incorporated program to teach doctor-patient relations, medical ethics, empathy and cross-cultural understanding about MH with library facilities as a driving force for having reflections with positive perceptions in order to induce participant self-aware and improve their capability of holistic care.

**Take-home Messages:** A program integrated library materials and expert's sharing as a mentor to educate MH not only can utilize the library resources, but also can enhance participant's experiencing learning and holistic healthcare cognition.

## #10JJ Poster - Teaching and Learning 2

10JJ11 (1371)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### What is correlated to Hackathon Participants' Readiness to Cooperative Problem-solving?

#### AUTHOR(S):

- Kung-Pei Tang, Taipei Medical University, Taiwan (Presenter)
- Yi-Hsin Elsa Hsu, Biotech EMBA & School of Health Care Administration, Taipei Medical University, Taiwan
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- Yi-Ting Lien, School of Medicine, College of Medicine, Taipei Medical University, Taiwan

#### ABSTRACT

**Background:** Hackathon is an activity to induce students from different health care professions to solve problems creatively together. However, not everyone is in readiness for interdependent problem-solving. We arranged two themed Hackathons at Taipei Medical University (TMU) to engage students to propose local health promotion projects, i.e., PSBH (Problem Solving for Better Health) Hackathon and AD (Assistive Devices) Hackathon. This study aims at investigating which factors are correlated to Hackathon participants' readiness to collaborative problem-solving, and to their preference for independent problem-solving as well.

**Summary of Work:** PSBH Hackathon was devoted to health promotion issues addressed by medical caregivers. It's member composition comprised only Hackathon newcomers (82 freshmen and sophomores in TMU), who were randomly allocated into 19 teams. Participants of AD Hackathon were 74 students including 44 undergraduates, 4 junior college students, and 26 graduate students nationwide. They build their own team and delivered 21 prototypes of assistive devices as outcomes of this hackathon. The 5 items Independent Problem-Solving Scale (IPSS) and the Positive Social Interdependence Readiness Scale (PSIRS) were employed to investigate 156 hackathon participants' collaborative readiness at the end of their teamwork. PSIRS comprises three factors: 1. appreciation of cooperative learning (ACL), 2. positive interdependent mindset (PIM), 3. collective efficacy (CE). An independent-samples t-test was conducted to compare participants' IPSS and PSIRS scores in PSBH Hackathon and in AD Hackathon.

**Summary of Results:** There was a significant difference in the IPSS scores for AD Hackathon ( $M=18.78$ ,  $SD=7.618$ ) and PSBHHackathon ( $M=12.27$ ,  $SD=5.271$ ) with  $p < 0.01$ . Another significant difference is found in the positive interdependent mindset scores for Assistive Device Hackathon ( $M=60.51$ ,  $SD=6.055$ ) and PSBH Hackathon ( $M=62.27$ ,  $SD=5.216$ ) with  $p < 0.05$ .

**Discussion and Conclusions:** Comparing to the experienced "hackers", participants in the whole newcomer Hackathon had a significantly higher score in positive interdependent mindset but lower score in preference to independent Problem-Solving.

**Take-home Messages:** The Hackathon participants who chose team members by their own prefer not to ask other people to help them to solve problems.

## #10JJ Poster - Teaching and Learning 2

10JJ12 (891)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Importance of Small-Group Tutoring for Improved Step 1 Performance

#### AUTHOR(S):

- Marcel Brus-Ramer, Tel Aviv University, Israel (Presenter)
- Kenneth Rubin, Elite Medical Prep, USA
- Nina Kagan, Tel Aviv University, Israel

#### ABSTRACT

**Background:** Preparing graduating students for Step 1 of the USMLE is an area of increasing interest for medical schools. A significant concern is the percentage of students not taking Step 1 on time, passing with weak scores, or failing. We decided to research the effectiveness of small-group online tutoring by experienced, trained USMLE tutors.

**Summary of Work:** In 2017-18, Elite Medical Prep LLC (EMP, [www.elitemedicalprep.com](http://www.elitemedicalprep.com)) created an integrated Step 1 program, taught at the Technion - Israel Institute of Technology. An optional small group component was offered so students could work online with an experienced USMLE tutor. These were 5 two-hour sessions over a 2-3 month period. Small group tutors employed a structured methodology based on 'Challenge Questions'. Of 25 students total in the class, 18 signed up for the optional group tutoring. Groups were comprised of 3 students each totaling 6 groups. The students contributed to 16% of the cost. The performance of the 18 students was compared against the previous years cohort.

**Summary of Results:** Results: Comparing the 2017-2018 small-group cohort with the 2016-2017 cohort, we found: • Significantly improved average test scores (+14 pts, t-test  $p < 0.05$ ) • Marked improvement in on-time test taking of Step 1 (increased from 44% to 64% of students) • Increased number of strong (> 230) scores on Step 1 (increased from 5 to 10) • Additionally, 10 students who were at the failing mark on their pre-Step 1 comprehensive assessment test, passed Step 1 on time.

**Discussion and Conclusions:** Small-group online tutoring significantly improved Step 1 performance. Additional cohorts of small group tutoring for the USMLE are currently in progress. Further research should be considered to address the optimal duration and intensity of tutoring. Selection bias needs to be controlled.

**Take-home Messages:** Small-group online tutoring is not an option often not offered in medical schools, but it should be considered.

## #10JJ Poster - Teaching and Learning 2

10JJ13 (3255)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Re-imagining Small Group Learning and the Development of Soft Skills

#### AUTHOR(S):

- Gary Hamlin, Bond University, Australia (Presenter)
- Kirsty Forrest, Bond University, Australia
- Jo Bishop, Bond University, Australia
- Sharon Hall, Bond University, Australia
- Amy Bannatyne, Bond University, Australia

#### ABSTRACT

**Background:** Bond University Medical Program is an undergraduate program structured around 2 years of problem-based learning (PBL), then 1 year of case-based learning followed by 2 years of clinical immersion. Program review identified the need to focus on the development of soft skills, coaching and career development. In response, the program leadership group conceptualised soft skills as essential skills and commenced implementation of a curriculum stream called Small Group Learning (SGL), Essential Skills and Career Development.

**Summary of Work:** A curriculum model defining the three key student experience transition points as; an undergraduate university student (1st year), a medical student (2nd-3rd years), and a clinically placed medical student (4th-5th years) has been developed. Transition will be supported by a shift from PBL to focus on SGL, essential skill development, and a coaching/career development program. The presentation will describe the model, the implementation of the SGL program and outcomes from an action-learning project to support the first transition. The action-learning project guides students to identify interpersonal skill (essential skills) developmental needs and supports a small focused intervention in the continuous development of the students interpersonal skills in a small group environment. Student choice will be an important component of the project and the presentation will discuss student choice of the; i) small group context to explore their skill development, ii) skill/micro-skill or attribute chosen for their intervention, and iii) the method of observation for their intervention.

**Summary of Results:** A model of student transition and an action learning project to support development of soft skills have been implemented.

**Discussion and Conclusions:** There is a central relationship between the essential skills associated with successful transition to and through a medical program and the soft skills increasingly being reported as essential for employability and the future world of work. To better prepare students to meet these challenges medical curricula need to continue to evolve and align learning and continuous development with societal and workforce needs.

**Take-home Messages:** Constructive curriculum planning is needed to embed essential skill development to meet the changing requirements of our healthcare future graduates.

## #10JJ Poster - Teaching and Learning 2

**10JJ14** (2525)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Study guide : A friendly tool to get familiar with Pediatric Oncology

#### AUTHOR(S):

- Pitchayanan Kuwatjanakul, Udonthani Medical School, Thailand (Presenter)

#### ABSTRACT

**Background:** Fifth year medical students in Udonthani Medical school have to rotate in pediatric oncologic ward which are difficult and complicated by its nature and characteristics of the patients. Moreover , they have to learn about holistic care, humanized health care and communication skills which are hardly to understand. To make them familiar and happy with this ward, we developed the “study guide” to be their guidance during this rotation. This study aimed to evaluate student satisfaction in this tool.

**Summary of Work:** From March 2017 to December 2019, fifth year medical students in Udonthani Medical school were assigned to learn from “study guide” which contained knowledge about the disease, chemotherapy , emergency management , guideline of treatment and general knowledge for counseling one week before rotating in pediatric oncologic ward, on the first day of rotation, students and teacher studied the guide and answered the question together. After the rotation, student satisfactions in the study guide were surveyed and their perceptions about pediatric oncologic ward were reflected.

**Summary of Results:** Forty two medical students from their 5th year were enrolled in this study. All students were satisfied with the study guide with 93%, 93%, 90%, 85% and 81% had most satisfaction in helping them to understand the treatment and complications of chemotherapy, helping them to learn about holistic care, humanized health care and communication skills, being useful during ward round, helping them to achieve oncologic knowledge and helping them to have confidence in initial treatment, respectively. Most students agreed that this tool made them familiar and happy with the rotation.

**Discussion and Conclusions:** The study guide is very useful for preparing students before attending the class especially in a complicated and difficult one. Not only a knowledge content, holistic care, humanized health care and communication skills which are more complicated can be included. Using this tool with understanding made it as a friend of the students to help them pass through the difficult lesson.

**Take-home Messages:** The study guide is a friendly tool to get familiar with Pediatric oncology which is difficult and complicated.





## #10JJ Poster - Teaching and Learning 2

10JJ15 (1052)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Role-play as a way to learn about host microbe interactions

#### AUTHOR(S):

- Elisabeth Hultgren Hornquist, Örebro University, Sweden (Presenter)

#### ABSTRACT

**Background:** The start of a new Medical School at Örebro University, Sweden in 2011 gave us unique possibilities to form a new integrated and outcome based curriculum with a PBL-based pedagogy. The curriculum consists of six themes representing organ systems and (patho)physiological processes. Each theme is repeated three times, enabling progression, with increasing depth and complexity. Theme Defense includes e.g. Immunology and Microbiology.

**Summary of Work:** One learning goal in the second cycle of Theme Defense is to understand host-microbe interactions. To help students achieve this we set up a seminar using role-play. All students were asked to collect knowledge about the invasion and evasion strategies, and host defense strategies for four different pathogens; Measles virus, Mycobacterium tuberculosis, Plasmodium falciparum (malaria), and Trichophyton spp (ring worm). Each seminar group consisted of about 30 students, and at the seminar they were openly drawn to represent either the invader or the host of one of the microbes, and to role-play, in groups of 3-4 students/microbe and invader/host. Each combat was allowed approximately 20 minutes, and the other students were encouraged to help either side.

**Summary of Results:** A written anonymous survey was performed the second semester we ran the seminars, and 52/55 students participated. Although 75% felt information was given in enough time prior to the seminar, 67% wished for more detailed information. 75% felt the seminar increased the understanding of the concept of host-microbe interactions. Only 20% would have preferred to have this as a PBL scenario, but 46% would have preferred a lecture. 56% of the students were positive to using a joint digital tool (e.g. Padlet) to share their preparatory efforts with the rest of the class.

**Discussion and Conclusions:** Host-microbe interactions is a learning goal well suited for this type of seminar, with two sides combatting. Engaging the students' feelings by "gaming" in the form of interactive, prestigeless role-play was appreciated by many students and they felt this made them think more deeply.

**Take-home Messages:** Role-play is an attractive way to learn about host microbe interactions. Students found the seminar nice, novel and thought-provoking. Improved information about the form of the seminar early in the course is needed.

## #10JJ Poster - Teaching and Learning 2

10JJ16 (2627)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Constructive alignment with peer role play to improve learning on Aged Care for students and residents

#### AUTHOR(S):

- En Ye Ong, Eastern Health, Australia (Presenter)

#### ABSTRACT

**Background:** Aged Care education is increasingly important with the ageing population often with geriatric complications, however, learning about aged care can be difficult and limited. Simulation-based education (SBE) such as role play is increasingly employed to train skills without patient contact, which is increasingly important due to reducing opportunities - with evidence that SBE improves educational outcomes. Myths that learners hate it and the lack of resources/time have limited the adoption of SBE, however, peer-based role play may be acceptable and reduce resource requirements without being inferior in achieving specific aims especially with constructive alignment.

**Summary of Work:** Review the literature on peer role play in teaching Geriatric Medicine and explore if constructively aligned peer role play is helpful in improving learning. A brief literature review (PubMed and ERIC) of the use of medical peer role play and role play in Aged Care education to determine the acceptability, rationale and to inform the design of a peer role play teaching activity.

**Summary of Results:** There is also no literature on peer role play in Aged Care education. Studies evaluating peer role play in other disciplines note good learner perceptions, increased confidence and engagement. Studies evaluating role play in Geriatrics also report good learner perceptions, increased confidence, engagement and improved knowledge and skills. Role play covering crucial geriatric skills aligns with Aged care learning outcomes and assessment; Role play structured similarly to planned Objective Structure Clinical Examinations (OSCEs) or MiniCEX/Workplace Based Assessment will align with assessment tasks - such constructive alignment improves student engagement and learning outcomes.

**Discussion and Conclusions:** Learners have been shown to often approve of peer role play (especially if relevant to assessment/constructively aligned). Several examples for implementation are described. Feasibility (resources and time) continue to be a challenge possibly ameliorated by registrar (near-peer) engagement and possibly peer engagement in being the “examiner” with detailed marking rubrics. If this becomes a learners common practice, self-directed learning and self-regulation could be promoted.

**Take-home Messages:** Peer role play teaching can be a useful tool in improving learning particularly for improving confidence and use of basic skills, especially with limited patient access. Further evaluation is likely to be fruitful.



## #10JJ Poster - Teaching and Learning 2

10JJ17 (3410)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Student Role Play: A Triad of Learning

#### AUTHOR(S):

- Thomas Baker, University Hospital Coventry and Warwickshire, UK (Presenter)
- Dhanya Pillai, University Hospital Coventry and Warwickshire, UK
- Arwa Meki, University Hospitals Coventry and Warwickshire, UK
- Alexandra Tebbett, University Hospitals Coventry and Warwickshire, UK
- Amanda O'Keeffe, University Hospitals Coventry and Warwickshire, UK
- Nanditha Sathyanarayana, University Hospitals Coventry and Warwickshire, UK

#### ABSTRACT

**Background:** Role play is a strategy that can increase student engagement and promote active learning (Van Ments 1999). It can be used to consolidate student knowledge and understanding (Joyner 2006). Furthermore, it provides a safe learning environment and can aid with the transition from theory to clinical practice (Joyner 2006).

**Summary of Work:** Role play was introduced into the A-E assessment teaching session within the 'Acute Block' rotation for final year medical students. The students were provided with 3 cases and rotated through the roles of 'student doctor', 'examiner' and 'patient'. The 'student doctor' was required to perform an A-E assessment. The examiner was provided with an A-E 'checklist' with prompts for observations and examination findings. The 'examiner' and 'patient' were instructed to provide peer feedback on the 'student doctor' performance. The aim of this project was to explore the student's perception and perceived benefit of each role. A questionnaire instructed the students to rank with justification the roles with respect to their impact on their learning and clinical development.

**Summary of Results:** The majority (72%) of students ranked 'student doctor' as the most beneficial. Citing reasons such as 'good test of knowledge' and 'able to practice'. The students (77%) ranked 'examiner' as the second most beneficial. Citing reasons such as being 'able to read the full A-E assessment list'. Although the majority (95%) of students reported the role of patient as the least beneficial, some students did find positives within this role. Stating it was useful 'listening to my peers go through the process'. Students also reported that role play 'reinforced learning' and maintained engagement.

**Discussion and Conclusions:** Although the majority of students reported the role of 'student doctor' as the most beneficial, they did highlight positives within the other roles. The additional roles provided the students with a different perspective of the A-E assessment and allowed for peer feedback, which in turn can promote critical reflection (Liu 2006).

**Take-home Messages:** Role play can be used in combination with lectures to enhance learning experience and maintain student engagement. The various roles within the role play scenarios can provide different and unique learning opportunities for the students.

## #10JJ Poster - Teaching and Learning 2

10JJ18 (1708)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Human Library: An opportunity to facilitate cultural competence development for occupational therapy students

#### AUTHOR(S):

- Kirsty Pope, Monash University, Australia (Presenter)
- Mang Yee Eli Chu, Monash University, Australia

#### ABSTRACT

**Background:** The Australian Occupational Therapy Competence Standards (2018) state that an occupational therapist 'practises in a culturally responsive and culturally safe manner, with particular respect to culturally diverse client groups'. According to Wells (2000) there are 5 stages to the development of this competence. The original Human Library project started in 2000 in Copenhagen aimed to provide a positive framework for conversations, which challenge stereotypes and prejudices and therefore, build positive relationships between people.

**Summary of Work:** Over 300 occupational therapy students on both the undergraduate and graduate entry Masters programs at Monash University participated in a Human Library to address stages 2, 3 & 4 of cultural competence development. Students completed pre-session activities including an online cultural competency module, readings relating to the importance of cultural competence for occupational therapists and a reflective worksheet asking them to rate their knowledge of their own culture and confidence at talking to someone with a different cultural background to their own. Students then attended the Human Library where real people (books) are on 'loan' to readers who are encouraged to explore and challenge stereotypes and prejudices.

**Summary of Results:** The majority of the students and 'books' reported the Human Library to be a positive experience, with students noting it deepened their learning about prejudice, stigma or discrimination and 'books' enjoying the opportunity to share their story.

**Discussion and Conclusions:** Previous curriculum content addressed student knowledge and, to a certain extent, awareness of cultural competencies but the experiential Human Library took this one stage further to the development of cultural sensitivity (stage 4).

**Take-home Messages:** Gaining cultural knowledge (stage 2) is not enough for graduates to develop cultural competency. An experiential session such as the Human Library provides the opportunity for students to put knowledge into practice, develop cultural awareness (stage 3) and sensitivity (stage 4) and therefore cultural competence (stage 5).

## #10KK Poster - Interprofessional Education 2

### 10KK01 (1901)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Opportunities of Interprofessional Training in Undergraduate Health Courses: the students' point of view

#### AUTHOR(S):

- Ana Carolina Bonetti Alves, Ribeirao Preto Medical School, Brasil (Presenter)
- Maria Paula Panúncio-Pinto, Ribeirao Preto Medical School, Brasil
- Marcos Borges, Ribeirao Preto Medical School, Brasil

#### ABSTRACT

**Background:** The need to expand teaching scenarios for the training of health professionals is recognized from international movements that have problematized the concept of health, its determinants and the best way to achieve it. Thus, interprofessional education and practice are highlighted as emerging issues in the field of health, with studies conducted at the global level.

**Summary of Work:** In order to identify the students point of view on the interprofessional education opportunities offered in undergraduate courses in Physical Therapy and Occupational Therapy, 30 participants were approached through an in-depth interview, recorded in audio, transcribed in full and analyzed in their content.

**Summary of Results:** Thematic content analysis allowed the identification of four main categories: (1) the lack of knowledge of professional roles among RPMS undergraduate courses; (2) limitations of professional training in health; (3) the patient as the focus of work and interprofessional practice and (4) primary care as a privileged scenario for interprofessional practices.

**Discussion and Conclusions:** The results point to the lack of knowledge among the students about the other professions that could act together reinforcing the hierarchy between Medicine and the other health professions. In addition, students report that their few interprofessional experiences occurred in the context of primary care, which reiterates the importance of teaching scenarios in the community. Students also consider that interprofessional education is fundamental and reflects on the quality of patient care.

**Take-home Messages:** Interprofessional education occurs when two or more professions learn about others, and with each other for effective collaboration and improvement of health outcomes. Teaching students how to learn and think in a interprofessional way is a necessary experience in health professionals' training and expanding interprofessional education opportunities is urgent.



## #10KK Poster - Interprofessional Education 2

### 10KK02 (1822)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### An Interprofessional Education Intervention for First-Year Medical and Nursing Students: Changes in attitudes toward interprofessional learning

#### AUTHOR(S):

- Sang Hui Chu, Yonsei University College of Nursing, South Korea (Presenter)
- ChangMoo Kang, Yonsei University College of Medicine, South Korea
- Hayoung Park, Yonsei University College of Nursing, South Korea
- Soyoon Park, Yonsei University College of Nursing, South Korea

#### ABSTRACT

**Background:** Interprofessional collaboration (IPC) is a key to deliver qualified healthcare and to enhance patient safety. Interprofessional education (IPE) based on mutual learning and collaborative communication is need to be integrated in a stepwise, systematic manner in undergraduate health profession education curriculum. First-year IPE, the starting point of a multi-year professional development, can give a critical opportunity for building the foundation of IPC.

**Summary of Work:** A prospective controlled trial was piloted to evaluate effects of an IPE intervention, which consisted of two sessions including games, lectures, and team activities, focused on attitude on interprofessional learning, professional identity (role and responsibility), and collaborative communication for first-year undergraduate medical and nursing students during 2018 fall semester. The scores of modified Readiness of health care students for Interprofessional Learning Scale (RIPLS) and those of professional identity were evaluated. Following each session, students of the IPE intervention group completed an open-ended survey. Communication skill and attitude were also measured at the end of the semester. A total of 87 responses (control group: n=59, IPE intervention group: n=28) were analyzed.

**Summary of Results:** The IPE intervention group, consist of 13 nursing and 15 medical students, showed significantly higher attitude of interprofessional learning at the end of the semester ( $p=.014$ ). However, professional identity and communication skill and attitude were not significantly improved compared with those of the control group.

**Discussion and Conclusions:** This study adds to the emerging body of evidence for IPE effects on health professional education and provides important data on first-year medical and nursing students readiness for interprofessional learning from a Korean perspective.

**Take-home Messages:** Two sessions of IPE intervention met its primary aim and supported the need to start IPE early, from first-year, before professional dogmas have been established. These results will demand further efforts to integrate IPE in medical and nursing curriculum so that the intervention developed in this study can evolve as a continual interprofessional learning practice.

## #10KK Poster - Interprofessional Education 2

### 10KK03 (896)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Integrated Interprofessional Collaborative Healthcare to Postgraduate Learning: Experience from Medical Intensive Care Setting

#### AUTHOR(S):

- Pornanan Domthong, Khon Kaen Hospital, Khon Kaen, Thailand (Presenter)

#### ABSTRACT

**Background:** Effective and high-quality patient care in ICU is a complex activity. Interprofessional education (IPE) offers a possible way to improve healthcare in various medical settings. Integrated interprofessional collaboration to service round and postgraduate learning are challenging. However, some previous studies about IPE shown heterogeneity outcomes and studies in ICU were limited. The aim of this study was to compare effectiveness of IPE interventions to routine education interventions.

**Summary of Work:** Medical ICU clerkship comprised 4-month for IPE group and 8-month for control group in each academic year. All residents were trained for both groups. The residents' knowledge was evaluated using MCQs and SAQs examination at the end of month. Teamwork satisfaction (3 intensivist staff, 16 ICU nurses and one clinical pharmacist) and medical errors were collected using visual analog score questionnaire, risk report system, and medical records review.

**Summary of Results:** The data was collected from 21 internal medicine residents from June, 2016 to December, 2018. The average posttest score is not significantly increased in IPE group (0.5 from 20). Analysis of the teamwork satisfaction score in IPE group was 9.53 from 10 scores, and 7.23 in control group. The preventable medical errors decreases from 8.6 to 5.3 events per month in control and IPE groups, respectively.

**Discussion and Conclusions:** Interprofessional care team in ICU enhanced postgraduate learning in term of increased satisfaction level of ICU teamwork, especially in ICU nurses. Moreover, IPE decreased medical errors due to preventable causes.

**Take-home Messages:** From interprofessional collaboration to IPE leading to a successful ICU practice included postgraduate students to understand their own professional identity while gaining understand of other professional's roles on the healthcare system.

## #10KK Poster - Interprofessional Education 2

### 10KKo4 (1283)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Tumor Board Shadowing: A Unique Opportunity for Medical Students to Learn Effective Collaboration Through Multidisciplinary Cancer Care

#### AUTHOR(S):

- **Milani Sivapragasam, McGill University Health Centre, Canada (Presenter)**
- James M. G. Tsui, McGill University, Canada
- Nicholas K.S. Grewal, University of Chicago, USA
- Daniel W. Golden, University of Chicago, USA
- Joanne Alfieri, McGill University, Canada
- Malcolm D. Mattes, West Virginia University, USA

#### ABSTRACT

**Background:** Teamwork and collaboration is an important required competency for medical education. Most learning experiences, however, do not capitalize on existing collaborative processes among physicians for experiential learning of the multidisciplinary aspects of patient care.

**Summary of Work:** We evaluated a novel tumor board shadowing experience at three medical schools in the USA and Canada. A total of 323 first and second year medical students participated, of which 77.4% completed a follow-up survey assessing the effectiveness of the program as a learning tool.

**Summary of Results:** Compared to traditional clinical shadowing, students were more likely to believe that tumor board shadowing provided a similar or better experience in terms of educational content (85%), exposure to a new field (96%), and the overall experience (89%). Forty-eight percent of students perceived a greater amount of multidisciplinary collaboration in oncologic care than they previously thought. A total of 48% of students felt more competent interacting with oncologists after participating, whereas 21% felt more competent interacting with cancer patients. Students' perception of increased competence was correlated with the amount of time spent with their assigned physician mentor ( $p < 0.01$ ). Second year medical students also had a more favorable overall experience than the first year medical students did ( $p = 0.04$ ).

**Discussion and Conclusions:** Our results demonstrate the feasibility of multi-institutional implementation of this learning experience and illustrate ways to optimize the effectiveness of the experience for students. Multidisciplinary tumor boards can be effectively used as a unique immersive learning opportunity, which can be feasibly implemented to improve knowledge of clinical oncology and multidisciplinary care in medical schools, and expose students to physicians in smaller fields like radiation oncology.

**Take-home Messages:** Tumor boards provides medical students with a fundamental understanding of the multidisciplinary nature of cancer care, while serving as an example of effective collaboration in clinical practice.

## #10KK Poster - Interprofessional Education 2

### 10KK05 (1196)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Community Emergency Medicine (CEM): Multiprofessional education to encourage learning experience, four years of implementation

#### AUTHOR(S):

- Sirote Srimahadthai, Medical Education Center, Ratchaburi Hospital, Thailand (Presenter)
- Anon Sathapornsathid, Ratchaburi Medical Education Center, Thailand
- Athip Sangrungruang, Ratchaburi Medical Education Center, Thailand

#### ABSTRACT

**Background:** Community Emergency Medicine (CEM) is a half-day program of learning emergency medicine at Ratchaburi hospital. The program is conducted every 3 weeks. The CEM team comprises doctors, nurses, pharmacist, radiology technician and medical students. Medical students are encouraged by care team to be versatile in multiprofessional education, interprofessional relationship and psychomotor skill. Aim of this study is evaluating psychomotor skill, attitude and interprofessional relationship in CEM.

**Summary of Work:** Medical students take part in emergency care team in CEM. History taking and physical examination and skill enhancement are evaluated at workplaces by the facilitator. Likert scale is used to determine attitude and interprofessional relationship to CEM. Reliability test of the scale is done. Cronbach's alpha is 0.848. Duration of working in community hospital will asked after CEM program.

**Summary of Results:** From 2016 to 2019, 131 sixth year medical students were enrolled. All student passed workplace evaluation in good level. Mean score was 7.51(SD=1.56). After and before CEM, mean attitude was 7.38 (SD=1.47) vs 6.15 (SD= 1.77) p value < 0.001. Interprofessional relationship was increase significantly 6.66 (SD=1.83) vs 7.84 (SD=1.67) p value <0.001. Duration of working at community hospital was increased 2.96 years (SD= 1.82) to 3.15 years (SD= 1.59) p value < 0.001.

**Discussion and Conclusions:** Both Multiprofessional education and good interprofessional relationship enhance learning climate in CEM. Effective resource and communication promote psychomotor skill development. From that reason, medical students are encouraged to work for longer periods in community hospitals when they are doctors. In conclusion, CEM is novel program in emergency medicine learning. CEM enhance psychomotor and attitude domain.

**Take-home Messages:** CEM is multiprofessional learning emergency medicine at community hospital and it encourage learning experience.

## #10KK Poster - Interprofessional Education 2

### 10KKo6 (1804)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Call the On Call: Authentic team training and communication at the Inter-Professional Training Ward

#### AUTHOR(S):

- Lana Zelic, Karolinska Institutet, Sweden (Presenter)
- Josefine Ivarson, Karolinska Institutet, Sweden
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#### ABSTRACT

**Background:** Inter-Professional Training Wards (IPTW) are designed to train students' team and communication competences. To promote team building students are retained in stable teams at the wards. However, this is not an authentic setting since especially doctors are nomads with concurrent working duties i.e. at the operating theatre. Thus, there is an unmet need to prepare students for the complexity of communication, and the change in professional responsibilities, when team members are not at hand. The aim with our work was to create a learning activity that prepares students for authentic teamwork and ensures training in inter-professional telephone communication. Furthermore, to explore how the learning activity affected team training at the IPTW.

**Summary of Work:** An inter-professional faculty developed the learning activity "Call the On Call" for the IPTW at Södersjukhuset, Sweden. An authentic need for telephone communication was created by separating the IPTW team from the medical student, who instead followed a physician according to the on-call organisation. A telephone exercise using SBAR, regarding a real, or a simulated scenario, linked to a real patient at the ward, was performed. Student and supervisor perspectives on the learning activity, and its effects on the IPTW teamwork, were explored through surveys, reflection seminars, focus interviews and field observations.

**Summary of Results:** Students (n=198) perceived that the learning activity developed their professional and inter-professional knowledge and skills. The activity did so by exposing students to new concrete situations, which they could reflect upon and share with each other. Concerns that the team collaboration would suffer from splitting the team were not met. Instead students and supervisors reported that the learning activity developed the student team by giving them an authentic task to solve where the different competencies were needed. Students found trust in the team although they were in different premises. Authenticity was highlighted as the strength of the exercise.

**Discussion and Conclusions:** In contrast to previous literature we show that constant physical proximity is not a requisite for effective team collaboration at the IPTW. Splitting the IPTW-team to different premises can in fact enhance interprofessional learning.

**Take-home Messages:** Inter-professional student teams need to be exposed to the complexities of authentic teamwork.



## #10KK Poster - Interprofessional Education 2

10KKo7 (438)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### In Situ Simulation Training as a Tool for Interprofessional Education in Pediatric Emergency

#### AUTHOR(S):

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#### ABSTRACT

**Background:** Pediatric emergency demands skills precision and team efforts to provide patient safety. It is vital that healthcare providers from various discipline work together to achieve the best results within a safe and professional environment. Our study sought to identify and evaluate the resident physicians' knowledge gaps, system competence, and latent safety threats (LSTs) that may become susceptible to medical errors through diverse in situ simulation scenarios.

**Summary of Work:** Unannounced in situ simulations were conducted using emergency scenarios involving clinical deterioration to cardiopulmonary arrest in the pediatric ward of Buddhachinaraj hospital between October and November 2018. Multidisciplinary teams including nurses and resident doctors responded to various simulations on alternating shifts. Each simulation was limited to 30 minutes with the additional 60 minutes for debriefing. The primary outcome was to ascertain the number and types of LSTs from the simulations. Secondary outcomes, obtained from 5-score Likert questionnaires, collected participants' assessment of task value, impact on patient care, and simulation practicality.

**Summary of Results:** Thirty-four healthcare providers (22 nurses and 12 residents) participated in 5 in situ simulations within 8 weeks. A total of 14 LSTs were identified (2.8 threats per one simulation). Safety threats were categorised as medication, equipment, and resource/system where knowledge gaps occurred most frequently while the threats from medication were least detected. Participants responded to the 5-score Likert questionnaires, which elicited 5 for task value, 2.18 for patient care disruption, and 4.32 for practicality. Written feedbacks were positive such that the simulation provided effective teamwork, improved patient evaluation in emergency situations, and developed emergency management knowledge and skills.

**Discussion and Conclusions:** LSTs such as malfunctioning equipment and role responsibility concerns became apparent from the scenarios. Thus, the practical aspect of in situ simulation can be used to improve safety from the identified knowledge gaps, and reinforce multidisciplinary collaboration when used as a part of an organisational safety programme.

**Take-home Messages:** Despite the quality of care improvement and being remarkably practical, in situ simulation may be limited by replacement costs, performance anxiety, and time constraints. Besides debriefing, preparing appropriate resources and simulation scenarios can mitigate some limitations.

## #10KK Poster - Interprofessional Education 2

### 10KKo8 (3005)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Development of interprofessional learning objectives for the National Licensing Examination in Medicine, Pharmacy and Psychotherapy in Germany

#### AUTHOR(S):

- **Maryna Gornostayeva, The German National Institute for State Examination in Medicine, Pharmacy and Psychotherapie, Germany (Presenter)**
- André Mihaljevic, Department of General, Visceral and Transplant Surgery, University Hospital Heidelberg, Germany
- Susanne Weinbrenner, Department of Public Medicine and Rehabilitation, German Statutory Pension Insurance Scheme, Berlin, Germany
- Ulrich Scherer, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
- Hildegard Spahn-Langguth, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
- Jana Junger, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany

#### ABSTRACT

**Background:** Interprofessional collaboration and communication is of enormous importance for efficient and high-quality patient healthcare. International frameworks recommend to include interprofessional education (IPE) in training programs. IPE is already anchored in the medical licensing regulations in Germany. However, there are no specific interprofessional learning objectives, which define the frame of IPE in the medical education. The aim of this project was to develop specific interprofessional learning objectives according to the core competencies for interprofessional collaboration practice.

**Summary of Work:** The development of interprofessional learning objectives takes place as a part of a project supported by Robert Bosch Foundation (2016-2019) and is based on existing national and international references. An interprofessional expert-group of twenty persons representing different health care professionals, e.g. nurses, pharmacists, physiotherapists, psychotherapists, physicians and medical students, was founded in 2016. The expert-group resolved that concrete operationalizable learning objectives are required to coordinate IPE implementation and conception of interprofessional teaching units and assessments.

**Summary of Results:** Initially the expert groups identified crucial interprofessional job-related fields based on the evidence on interprofessional collaborative care, e.g. handover, treatment planning, case discussions, ward round, error disclosure, etc. Specific learning objectives have been formulated to these fields in four workshops. Then, in a multi-phase procedure, these learning objectives were evaluated and condensed. In the next phase the condensed learning objectives were assigned to the core competencies for interprofessional collaboration practice: values and ethics, roles and responsibilities, interprofessional communication, and teams and teamwork to represent the international standards for IPE.

**Discussion and Conclusions:** It is significant to develop interprofessional learning objectives together with representatives of different health care professionals. Therefore the interprofessional coordination of learning objectives can be saved.

**Take-home Messages:** Simultaneous implementation of interprofessional competencies in the national licensing examination in Medicine, Pharmacy and Psychotherapy support the strengthening and improvement of IPE in Germany.

## #10KK Poster - Interprofessional Education 2

**10KK09 (543)**

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Applying World Café to initiate the reform of Inter-professional practice(IPP) and holistic care(HC) curricula among all professions

#### AUTHOR(S):

- Pi-Yu Wu, National Defense Medical Center Tri-Service General Hospital, NDMCTSGH, Taiwan (Presenter)
- Li-Chen Lin, National Defense Medical Center Tri-Service General Hospital, NDMCTSGH, Taiwan
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- Cheng-Yi Cheng, National Defense Medical Center Tri-Service General Hospital, NDMCTSGH, Taiwan

#### ABSTRACT

**Background:** IPP enabled by inter-professional education(IPE) could be the practice foundation for delivering team-based holistic care. World Café is useful to engage broad perspectives and gain collective wisdom. To build a better environment for UGYs and PGYs to learn about IPP and HC, we designed a workshop, styled as a World Café to facilitate each profession to reform their curricula by learning about, with and from other professions.

**Summary of Work:** Twenty-five faculty members from 14 professions attended this workshop. Following the World Café principals, the participants discussed the obstacles, visions and action plans of IPP and HC in 3 rounds. The posters and the videos of the final presentations were transformed into transcripts. The main themes and keywords of those discussions were analyzed and presented in the form of a mind map and word cloud. We also use questionnaires to collect the feedback for this workshop.

**Summary of Results:** Several obstacles were identified: insufficient training of faculties, lack of technology assisting IPP and IPE, low participation of some professions. The proposed solutions are: building an IPP care platform, applying social media to engage all professions, providing clinical faculties and students learning protection time, direct-delivery of IPP/PE template writing curriculum. 16 participants filled the post-workshop questionnaire. The overall satisfaction rate of this workshop is 93.75%. Over 90% of participants thought this workshop is helpful to improve the IPP and HC curricula and care.

**Discussion and Conclusions:** World Café method is helpful to engage all professions in leading collaborative dialogue and creating possibilities for actions. The conclusion of this workshop revealed that applying technologies, engaging faculties, providing learning protection time and giving each profession the right to initiate IPP are important elements to the reform of IPP and HC curriculums among all professions.

**Take-home Messages:** World Café with the nature of initiating open discussions can be used to engage all professions and realize the spirit of IPP to initiate the redesign of clinical curricula, especially for IPP and HC.

## #10KK Poster - Interprofessional Education 2

**10KK10** (436)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Interprofessional Education

#### AUTHOR(S):

- **Albena Gayef, Trakya University Faculty of Medicine, Department of Medical Education, Edirne, Turkey (Presenter)**

#### ABSTRACT

**Background:** Common sense developments in health and social care policy have positioned interprofessional practice at the heart of contemporary health and welfare systems. In this context, interprofessional education has become an important issue (Cooper et al., 2005). Interprofessional education is defined as “Those occasions when members (or students) of two or more professions learn with, from and about one another to improve collaboration and the quality of care” (Hammick et al., 2007).

**Summary of Work:** This study is aimed to review of the literature to understand context and underlying mechanisms related to successful and unsuccessful interprofessional education programs for medical and healthcare trainees. In this review, a detailed literature review was done in Medline and Google Scholar (1998 to 2018) with education, interprofessional education and collaboration keywords.

**Summary of Results:** The review included trainees from various disciplines including medicine, nursing, rehabilitation sciences, social work and psychology. The analysis made for a better understanding of the successes and failures of interprofessional education learning situations. A clear learning context, goals of the interprofessional education, roles and expectations of the participants, multidisciplinary representation of the participants, collaborative skills and teamwork were searched.

**Discussion and Conclusions:** This study emphasizes the need to carefully plan interprofessional education programs. In conclusion, medical and health sciences programs will be able to develop better workshops allowing for more effective interprofessional education programs. Due to the importance of teamwork we must teach our students how to collaborate.

**Take-home Messages:** This study emphasizes the need to carefully plan interprofessional education programs.

**References:** Cooper H, Spencer-Dawe E, Mclean E. Beginning the process of teamwork: design, implementation and evaluation of an inter-professional education intervention for first year undergraduate students. *Journal of Interprofessional Care* 2005;19(5):492-508. Hammick M, Freeth D, Koppel I, Reeves S, Barr H. A best evidence systematic review of interprofessional education: BEME Guide no.9. *Medical Teacher* 2007;29(8):735-51.

## #10KK Poster - Interprofessional Education 2

### 10KK11 (62)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Presage, Process and Product: Analysis of an Interprofessional Education Intervention

#### AUTHOR(S):

- **Marcio Gomes, University of Ottawa/Royal College of Physicians and Surgeons of Canada, Canada (Presenter)**
- Carolina Souza, The Ottawa Hospital, Canada
- Chantal Bornais, The Ottawa Hospital, Canada
- Denyse Richardson, University of Toronto, Canada
- Stephanie Sutherland, The Ottawa Hospital, Canada

#### ABSTRACT

**Background:** The 3-P model has been proposed as a good model for analysing IPE learning activities. It uses narrative descriptions of presage, process and product factors, and considers the complex and dynamic relationships between the different factors.

**Summary of Work:** The Ottawa Hospital (TOH) is a referral centre that provides centralized thoracic cancer care for 1.3 million population of Eastern Ontario, Canada. TOH thoracic cancer healthcare professionals participate in weekly Multidisciplinary Cancer Conferences (MCCs), which is the reification of this community of practice. The TOH Thoracic Oncology Interprofessional Retreat (Retreat) is a formal, full day, biennial CPD activity designed in 2012 with the goal of improving the collaborative practice of the MCC. Data from files of the 3 Retreats were analysed and semi-structured interviews were conducted with participants.

**Summary of Results:** **Presage:** The driver for interprofessional education was a need identified by members of the community of practice. The number of participants varied from 64 to 88, 70-80% post-qualification, including 4 professions and 10 medical specialties. The main learning theory underpinning the design was situated learning theory and teachers were members of the team with no training in interprofessional facilitation. **Process:** Participation was voluntary. Programme developers followed a systems approach to curriculum design. The IPE was secondary to the practice development needs, which were identified by observation and performance data. Behavioural learning objectives were developed to progressively achieve higher educational levels. Instructional methods and room setup were designed to create a simulated MCC experience. **Product:** Over 80% of the team attended the Retreats, with proportional representation of professions and disciplines. Five-point satisfaction surveys had an average score of 4.3-4.9. Most important aspects for overall effectiveness were: interprofessional approach, multiprofessional faculty, interactivity, collegial atmosphere, educational design, relevance and impact on practice. There were self-reported changes in attitudes, behaviours, organizational practice and patient benefits.

**Discussion and Conclusions:** This case study evaluated a successful IPE intervention using an evidence-informed model and identified factors associated with IPE effectiveness. It used a simulated community of practice experience to provide authenticity, which is an innovation in curriculum design for CPD activities.

**Take-home Messages:** The 3-P model is an easy-to-apply and effective framework for describing and analysing IPE initiatives.



## #10KK Poster - Interprofessional Education 2

### 10KK12 (510)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Effectiveness of a Small Group Class Teaching of Interprofessional Education on Nurses' Attitudes toward Interprofessional Practice

#### AUTHOR(S):

- Li-Chen Lin, Tri-Service General Hospital, Taiwan (Presenter)
- Jen-jiuan Liaw, School of Nursing, National Defense Medical Center, Taiwan
- Ying-Jung Lai, Department of Teaching, Tri-Service General Hospital, Taiwan

#### ABSTRACT

**Background:** Based on the findings of previous survey, we found that the percentages of nurses who were satisfied with the symposium of inter-professional Practice was 91.9%, lower than other healthcare professions. The scores of Interdisciplinary Education Perception Scale (IEPS) for nurses were also lower than other healthcare profession ( $p < .05$ ). It is important for nurses to organize and summarize nursing professional knowledge and skills and demonstrate uniqueness of nursing profession in clinical practice and health care teamwork. This study evaluates the effectiveness of IPE/IPP training on the changes of nurses' attitudes toward IPP.

**Summary of Work:** The training was implemented in small group class teaching. The training was led by senior teachers to discuss how to practice IPP and writing IPP/IPE template writing. Then the trainees became the seeds of the units, and continued to guide other nurses to implement IPP/IPE template writing. Nurses' satisfaction with the seminar was assessed through online system, completing the quiz and study sheet, and the IEPS to measure the effectiveness of inter-professional education.

**Summary of Results:** A total of 2061 healthcare professions (740 nurses and 1321 other healthcare professions) participated in the inter-professional education, and completed questionnaires. The results showed that nurses' satisfaction could reach 88.9%, higher than other healthcare professions (85.9%). In the IEPS with 12 dimensions (6 point Likert Scale), the pre- & post seminar test showed that nurses' IEPS scores were higher than other healthcare professions (pre:  $5.48 \pm 0.64 > 5.31 \pm 0.71$ , post:  $5.66 \pm 0.55 > 5.50 \pm 0.61$ ). The results suggest that small group class teaching could enhance clinical nurses' confidence in their professional knowledge. Most nurses still can endeavor to contribute what they know and what they can do to discussion and communication in the inter-professional care teams.

**Discussion and Conclusions:** All health care team members learned from each others in problem solving, core knowledge, skills and attitudes in the case scenario. Clinical nurses received the inter-professional education and training courses, enhanced their identification with the health care team.

**Take-home Messages:** Nurses can organize and summarize nursing professional knowledge and skills to demonstrate uniqueness of the nursing profession in the clinical practice and health care teamwork.

## #10KK Poster - Interprofessional Education 2

**10KK13** (2366)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### An interprofessional approach to enhance safety and teamwork in the operating room: the STOR course

#### AUTHOR(S):

- **Malcolm Han Wen Mak, Tan Tock Seng Hospital, Singapore (Presenter)**
- See Yin Liew, Tan Tock Seng Hospital, Singapore
- Zean Jia Hui Ng, Tan Tock Seng Hospital, Singapore
- Sarah Qinghui Lu, Tan Tock Seng Hospital, Singapore
- Kaushal Amit Sanghvi, Tan Tock Seng Hospital, Singapore
- Terence Cheong Wei Huey, Tan Tock Seng Hospital, Singapore

#### ABSTRACT

**Background:** Human errors can easily occur in the operating room (OR) from poor teamwork and miscommunication. In surgical training, emphasis is often placed on technical ability and expertise. Non-technical skills e.g. teamwork, communication and crisis management are important components to minimize human error and improve patient safety, but not often formally taught in surgical residency programs. We designed a 4-hour Safety and Teamwork in the OR (STOR) course to address this.

**Summary of Work:** The course, led by faculty and senior residents, comprised two parts: lectures and teamworking exercises, followed by simulated scenarios. Participants worked in teams comprising residents from surgical disciplines and anaesthesia, as well as OR nurses. Four months post-course, data was collected through anonymized survey to determine course effectiveness, relevance to practice and obtain course feedback.

**Summary of Results:** We had 56 participants over 2 years, comprising 32 residents and 24 nurses. 29 (51.8%) responded to the post-course survey. The simulated scenarios was rated the most effective component, with 28 (96.6%) rating it effective. All participants (100%) found the course effective in improving communication in the OR. 28 (96.6%) and 27 (93.1%) reported effectiveness in improving interprofessional collaboration and teamwork respectively. Eleven (37.9%) responded that they applied more than 80% of what they learnt in the course, with 15 (51.7%) between 50-79%. In qualitative questions, teamwork and interprofessional provision of care was the most common response theme to examples of when knowledge gained from the course was applied. For course improvement, most participants suggested more simulated scenarios.

**Discussion and Conclusions:** Interprofessional teamwork and safety in the OR can be developed even with a short 4-hour course. The situated learning approach enhances learning and most participants found it effective and requested more. While almost all participants found the course effective in improving teamwork, communication and interprofessional collaboration, more can be done to improve course applicability.

**Take-home Messages:** Safety and teamwork in the OR is often difficult to impart and sometimes taken for granted. It involves both systemic and cultural issues. We believe a short 4-hour course can contribute towards a collaborative and safe environment in the OR.

## #10KK Poster - Interprofessional Education 2

**10KK14** (2767)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Communication skills development: an interprofessional approach to patient management and handover

#### AUTHOR(S):

- Heidi Penrose, Mid-Wessex GP Education, UK (Presenter)
- Chris Beng, South Central Ambulance Service NHS Foundation Trust, UK
- Samantha Scallan, GP Education Unit, UK

#### ABSTRACT

**Background:** Interprofessional education (IPE) can be a powerful way for clinicians to learn with, from and about each other, and support the development of professional insights and knowledge. It can be particularly useful for clinicians working in the same care context, to better understand their overlapping perspectives on patient management and care. Previous research has indicated that areas such as communication skills, the patient pathway and risk assessment can benefit from an IPE approach. An interprofessional communication educational day was designed to bring nursing staff, paramedics and GPs together. The aim of the event was to enable participants to develop skills in inter-professional communication and handover using a range of educational activities. The day was facilitated by a GP and Emergency Medicine doctor.

**Summary of Work:** Eleven clinicians (6 paramedics, 4 nurses and 1 GP) attended. The day began with a focus on communication in the healthcare setting, specifically the importance of accurate and clear communication, and a discussion of difficult conversations. Next a structured approach to handover was presented, and in the afternoon the group worked through four simulation scenarios with actors to put into practice the approaches and strategies discussed earlier. Participants completed pre-session information sheets about their experience and expectations and a post-session evaluation of the day.

**Summary of Results:** Participants valued the day and reported improved confidence in managing handover and to undertake difficult conversations. The day was enjoyable and engaging, and the interprofessional approach was seen as enhancing this, particularly in terms of appreciating different clinical perspectives on care.

**Discussion and Conclusions:** The event helped participants to better understand each other's roles in managing patient care, to learn some new tools and to consolidate learning through simulation.

**Take-home Messages:** The educational day demonstrated that shared learning can be powerful and generate insights for clinicians. Participants also made suggestions as to how the event might be developed for the future.

## #10KK Poster - Interprofessional Education 2

**10KK15** (3446)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Hidden Key to Safer Patient Care: Role of Inter professional Learning in a Hospital Setting

#### AUTHOR(S):

- Mazuin Abu Talib, University Hospital of North Tees, UK (Presenter)
- Dileep Kumar, University Hospital North Tees, UK
- Ahmed Shalaby, University Hospital North Tees, UK
- Rajeev Sathasivam, University Hospital North Tees, UK

#### ABSTRACT

**Background:** Inter professional learning is a tool that has been used to aid teaching and training in the undergraduate setting. It has been found to improve communication skills and professional relationships between medical and nursing students. It has been utilised to a limited degree in the workplace environment. We hypothesize that there is a role for inter professional learning in fostering a positive and safer working environment.

**Summary of Work:** A prospective study with a group of 26 healthcare professionals from mixed specialities including 16 foundation year one and two doctors, 2 pharmacists, 1 dietician, 4 nurse practitioners, 1 radiographer, and 1 physiotherapist in a district general hospital setting. The participants were given generic clinical scenarios to work through as a group. A questionnaire was used to assess if there was any difference in their perception towards each other pre and post-session in 4 domains : Knowledge, Caring, Efficient, Approachable.

**Summary of Results:** 100% of participants said they found the session beneficial. 100% of participants reported improved understanding of the roles of the other healthcare professionals compared to 57% pre-session. 100% of participants felt they can provide safer patient care following the session. IPL changed the views of 65% of participants regarding their own roles. Post session, doctors were seen as 10% more caring, 20% more efficient, 40% more approachable. Pharmacist were seen as 50% more caring, 16% more efficient, 54% more approachable. Nurse Practitioners were seen as 72% more knowledgeable, 25% more caring, and 9% more approachable. Dieticians were seen as 20% more knowledgeable, 65% more caring, 40% more efficient and 76% more approachable. Radiographers were seen as 75% more caring, 52% more efficient and 92% more approachable. Physiotherapists were seen as 36% more caring and 66% more approachable.

**Discussion and Conclusions:** IPL has shown to improve the perceptions of healthcare professionals towards each other and positively influenced work place relationships in a multi-disciplinary environment. IPL should be incorporated into regular teambuilding and post graduate teaching sessions in a hospital setting.

**Take-home Messages:** IPL can break down barriers that exist to hinder meaningful and constructive communication between different specialties.

## #10KK Poster - Interprofessional Education 2

**10KK16** (956)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### What are the elements of an effective interprofessional education during simulation in an Asian context?

#### AUTHOR(S):

- Gayathri Nadarajan, Singhealth, Singapore (Presenter)
- Jeremy Wee, Singhealth, Singapore

#### ABSTRACT

**Background:** The role of simulation in inter-professional education (IPE) is already established. However the elements required for effective IPE in an Asian context is yet to be studied. This is important as there are certain differences in an Asian setting- such as culture and hierarchy that may act as barriers. These barriers can prevent participants from reaping the full benefits of IPE during simulation. Hence the importance of this study.

**Summary of Work:** This qualitative study aims to identify barriers and essential elements for an effective IPE experience during simulation. The study utilised observations, focused group interviews and individual surveys of the doctors and nurses, with the questions: (1)Was this session effective in achieving IPE? (2)What factors made it ineffective? (3)What elements do you think are essential for the simulation session to be effective at IPE? Responses were subsequently coded by 2 independent coders and underwent framework analysis.

**Summary of Results:** The doctors flagged out uncertainties on how to ensure that IPE was conducted during the session. The nurses felt that the session still focused on the doctors and nurses as individuals, and the objectives of IPE were not met. Factors during the stages of scenario development, team selection, conduct of scenario and post session debrief made the IPE ineffective. The nurses felt that there had to be clearer objectives at each stage for both the doctors and nurses and that the facilitators needed to be more assertive in ensuring the scenarios were conducted accordingly. They also felt that the debriefing needed improvement for a more effective IPE. It was also observed that the doctors dominated both the scenario and the learning moments and that many a times, the nurses were hesitant to flag out any doubts.

**Discussion and Conclusions:** Simulation is an effective tool to promote IPE. However, it has to be utilised correctly for its full benefits. In an Asian context, one has to be more sensitive of the cultural backgrounds and behaviours.

**Take-home Messages:** There is a need to identify barriers and essential elements for an effective IPE during simulation sessions in an Asian context. More studies needs to be done in this area to reach a consensus.



## #10KK Poster - Interprofessional Education 2

**10KK17** (919)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Supervisors' pedagogies for supporting interns to learn intra- and interprofessional collaboration: a qualitative and quantitative ego network analysis

#### AUTHOR(S):

- **Mirte van den Broek, University Medical Center Utrecht, The Netherlands (Presenter)**
- Esther de Groot, University Medical Center Utrecht, The Netherlands
- Janneke Fokkens, University Medical Center Utrecht, The Netherlands
- Janneke Witte, University Medical Center Utrecht, The Netherlands
- Roger Damoiseaux, University Medical Center Utrecht, The Netherlands
- Dorien Zwart, University Medical Center Utrecht, The Netherlands

#### ABSTRACT

**Background:** Interprofessional collaboration is an essential competence for medical students to develop in order to prepare them for their future practice. Students have the opportunity to learn from interactions in the professional networks of their supervisors during their clerkships. This study aims to understand inter- and intraprofessional networks of generalists and specialists, and in what manner supervisors involve interns in their professional network to learn interprofessional collaboration.

**Summary of Work:** Semi-structured interviews were held with ten general practitioners (GPs) and ten ear, nose, and throat (ENT) specialists. An egocentric social network approach was used to collect and analyse qualitative data as well as quantitative data.

**Summary of Results:** GPs had significantly more interprofessional contacts than ENT specialists ( $p < 0.001$ ), with no significant difference in the network sizes of both disciplines ( $p = 0.05$ ). Two-way ANOVA showed a significant interaction effect between profession and type of collaboration ( $p < 0.01$ ). All supervisors involve interns actively, discussing how collaboration with other professionals evolved, and more passively, assuming that an intern will learn from observation mainly. Many supervisors consider the interns' initiative essential in deciding to involve an intern in their network.

**Discussion and Conclusions:** Although the workplace of GPs differ notably from hospital settings where ENT specialists work, the network sizes of both are comparable. Internships at the general practice seem to provide more opportunities to learn interprofessional collaboration. Supervisors could involve interns more actively in their intra- and interprofessional network while interns could take more initiative to learn collaboration from their supervisors' network. This study contributes to the understanding of the window of opportunity for interns to learn interprofessional collaboration at the workplace.

**Take-home Messages:** The findings of this study suggest an important role for the general practice as learning environment for students to learn interprofessional collaboration. To materialise these opportunities, supervisors should involve interns in a more active manner in their own intra- and interprofessional interactions.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL01 (816)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### An analysis of sign-based teaching for clinical final examinations

#### AUTHOR(S):

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- Thomas MacKinnon, St George's University Hospitals NHS Foundation Trust, UK
- Daniel Tuite, Chelsea and Westminster Hospital NHS Foundation Trust, UK
- Thomas Handley, Chelsea and Westminster Hospital NHS Foundation Trust, UK
- Javier Ash, Croydon Health Services NHS Trust, UK
- Norbert Banhidý, Royal Free London NHS Foundation Trust, UK

#### ABSTRACT

**Background:** With rising tuition fees and increasing pressures in the postgraduate workplace, outcome-based education is gaining favour among medical schools wishing to attract students and train doctors equipped for the challenges of the modern NHS. Outcomes including practical skills and medical acumen have been identified as lacking, thus medical curricula reforms are balancing increased patient contact and learning in the hospital environment alongside theory-based lecturing. Traditionally, medical education centres around pathological processes and their clinical presentation (disease-based teaching), whilst in practice and exams, doctors encounter signs of diseases for which a wide list of differentials exists. We hypothesise that teaching focused on clinical presentation and symptomatology, with subsequent extrapolation to relevant pathology (sign-based teaching), is clinically more effective at preparing students both for final examinations and entering medical practice.

**Summary of Work:** A one-day course was organised, aiming to prepare final year medical students for clinical examinations. Junior doctors presented sessions covering core topics for medical and surgical examinations deemed most relevant to UK medical school finals. All attendees were asked to complete questionnaires before and after completing the course, evaluating preparedness and confidence levels for upcoming examinations.

**Summary of Results:** 126 students submitted all required questionnaires. Overall preparedness was assessed on a 10-point Likert scale, and increased from 4.78 pre-course to 6.54 post-course ( $p < 0.0001$ ). Preparedness for medical and surgical exams was assessed on a 4-point Likert scale, both of which increased significantly ( $p < 0.0001$ ). >95% of attendees rated our sign-based teaching model to be clearer, preferable and more relevant than traditional teaching methods.

**Discussion and Conclusions:** Students gained confidence in using strategies to approach commonly tested areas likely to be tested in finals examinations, and felt overall more confident at extrapolating clinical signs to diagnose conditions and develop management plans in an exam setting. Further research should aim to quantify the benefits of sign-based teaching in clinical examinations, and categorise what techniques are successful in preparing students at different stages of medical education.

**Take-home Messages:** Teaching based on clinical signs appears to be preferred over traditional medical school methods based on pathology.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL02 (1806)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The quality of written feedback in mini-Clinical Evaluation Exercise (mini-CEX) in foundation doctor's e-Portfolios

#### AUTHOR(S):

- David Faluyi, Royal Liverpool Hospital, UK (Presenter)
- Beth Shelvey, Royal Liverpool Hospital, UK
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#### ABSTRACT

**Background:** The mini-Clinical Evaluation Exercise (mini-CEX) is a supervised learning event introduced into the UK foundation program due to the lack of feedback doctors in training received. Concerns have been raised regarding the usefulness of the mini-CEX as an educational tool. Good quality feedback is a essential for the mini-CEX to have a positive educational impact. Research shows good feedback should be specific, objective, focused on improvement and delivered in a timely manner. This study aims to assess the quality of feedback in mini-CEXs and the time taken to deliver it.

**Summary of Work:** 50 foundation year one (FY1) doctors at the Royal Liverpool and Broadgreen Hospital NHS Trust, employed between 01/08/2017 and 31/07/2018, were sent email invitations to take part in the study. 30 FY1 doctors gave their consent for their mini-CEXs to be analysed. Data were retrospectively collected from the e-portfolios. Following a literature search we designed an objective feedback review proforma consisting of 3 domains - 'specific', 'objective', 'focused'. Each domain was scored between 0 - 3 ('objective' was scored on a scale 0 - 1). Two independent clinicians reviewed each mini-CEX and scored each domain. A third independent clinician performed the statistical analysis.

**Summary of Results:** 281 mini-CEXs were collected from the trainees. 18 (6.7%) mini-CEXs submitted were not completed by the trainer and 20 (7.1%) mini-CEXs were completed incorrectly by the trainee, both groups were excluded from analysis. 242 mini-CEXs were analysed with good inter-rater reliability (weighted Cohen's kappa = 0.772). Pooled scores from both reviewers scored 27% poor quality, 62% medium quality and 11% high quality. 22 days was the mean number of days from date of clinical event to sign off by the trainer. There was no association between time and quality of feedback (Spearman's rank coefficient = 0.17).

**Discussion and Conclusions:** This study shows varying degrees of quality in the written feedback provided to foundation doctors, with a greater proportion of low quality written feedback than high quality. Additionally it demonstrates incorrect implementation of the feedback tool from trainers and trainees.

**Take-home Messages:** Further training on how to correctly implement the mini-CEX is required for both trainers and trainees to make it a useful assessment tool.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL03 (1360)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Enhancing Workplace-Based Assessments and Learning: LEAPing into the Future with Smartphone Applications

#### AUTHOR(S):

- Sabrina Lau, Tan Tock Seng Hospital, Singapore (Presenter)
- Selvia Kosim, National Healthcare Group, Singapore
- Faith Li-Ann Chia, National Healthcare Group, Singapore

#### ABSTRACT

**Background:** Workplace-Based Assessment (WBA) has been increasingly adopted to facilitate on-the-job learning and deliver timely feedback for residents. However, there have been reports of increasing trainee and assessor fatigue with the growing amount of evaluations over the years. The National Healthcare Group (NHG) Education Office set out to enhance the accessibility and efficiency of WBA by developing a smartphone application named Learning, Evaluation and Assessment Platform (LEAP). LEAP provides a user-friendly avenue for on-the-spot feedback, and encourages residents to participate in self-reflection and monitor training progress.

**Summary of Work:** WBA is traditionally conducted by supervisors via hardcopy forms following patient care encounters. Often, immediate feedback is not given, and few residents actively retrieve evaluations which have been submitted directly to the Residency Office. In 2016, the NHG Internal Medicine Residency Programme adopted LEAP as a platform for residents to submit WBA including CSR, Mini-CEX and case and procedure logs. LEAP allows submission of WBA directly via a mobile device during or immediately following a clinical encounter. Supervisors also deliver verbal feedback and key in action plans which are easily retrievable by the residents at their convenience. Post-implementation, we monitored residents' utilisation of LEAP through their compliance to submission deadlines. We also obtained feedback from residents and supervisors regarding their experience using LEAP.

**Summary of Results:** Both residents and supervisors shared that LEAP was user-friendly and easily accessible - both important features for busy clinicians. Residents also found the process of submitting assessments and self-reflection to be more efficient. However, supervisors who were not familiar with the application took longer to complete the smartphone-based assessments. There were also difficulties in submitting evaluations when network connections were unstable.

**Discussion and Conclusions:** Implementation of LEAP improved the compliance of residents' submission of assessments timely and made feedback and self-reflection more accessible. The use of smartphone applications could enhance WBA learning and encourage regular self-reflection, but may reduce value from the WBA session if too much time is spent typing into the devices instead of providing face-to-face feedback.

**Take-home Messages:** Smartphone applications enhance workplace-based assessment and learning. Enhancements may be required to ensure a more seamless learning process, and to improve assessor training and usability.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL04 (713)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Supervisors' Perception of the Use of the Generic version of the Mini-CEX in Occupational Therapy Fieldwork Education in Taiwan

#### AUTHOR(S):

- Yi-chia Liu, National Cheng Kung University Hospital, Taiwan (Presenter)
- Pai-chuan Huang, College of Medicine, National Cheng Kung University, Taiwan
- Keh-chung Lin, National Taiwan University College of Medicine, Taiwan
- Wei-Yun Hsu, National Cheng Kung University Hospital, Taiwan
- Po-See Chen, College of Medicine, National Cheng Kung University, Taiwan

#### ABSTRACT

**Background:** The generic version of the mini-CEX has been adopted in occupational therapy (OT) fieldwork education in Taiwan. However, the appropriateness toward the needs specific to OT has not been examined. We investigated the perception of OT supervisors on the generic version of the mini-CEX in Taiwan.

**Summary of Work:** An online survey was developed by a senior occupational therapist. The survey was distributed to OT supervisors who administrated post-graduate year (PGY) trainings in 2018 based on the open access database of the Ministry of Health and Welfare, Taiwan. The survey composed of three sections: the perception on the match between the mini-CEX and OT training goals, the match between the mini-CEX and core OT competences, and the fairness/objectivity of the mini-CEX. The responses were based on a five-point Likert scale. A score of 4 or 5 indicated that the responder agreed or strongly agreed with the statement. A total of 79 surveys were returned, and 71 of them were analyzed.

**Summary of Results:** An estimated 66.2% of OT supervisors agreed on match between the mini-CEX and the training goals. Over 62% of supervisors perceived that the mini-CEX benefited the competence training (62.0%–76.3% agreement). Seventy-six point one percent of supervisors agreed that the mini-CEX judged the performance fairly, and 64.8% of supervisors perceived it as objective.

**Discussion and Conclusions:** Our results indicated that only 65% of the OT supervisors agreed that the generic version of the mini-CEX was an appropriate and objective tool for evaluating OT trainees. This finding reveals that a direct adoption of the generic version of the mini-CEX might be not ideal and should be used with caution. Further examination and revision for the use in OT education are needed.

**Take-home Messages:** Although a majority of OT supervisors perceive the generic version of the mini-CEX as a fair tool in judging OT trainees' performance, here is a need for further work to refine the generic version to match specific needs of individual fieldwork education programs.



## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL05 (831)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The long case: an educational impact study

#### AUTHOR(S):

- Corinne Tey, The University of Melbourne, Australia (Presenter)
- Neville Chiavaroli, The University of Melbourne, Australia
- Anna Ryan, The University of Melbourne, Australia

#### ABSTRACT

**Background:** The traditional long case involves an unobserved clinical encounter (history and physical examination) followed by a case presentation to one or more examiners. Its summative use has been questioned due to poor reliability and case specificity. However, little is known about the educational impact of the long case - a crucial element in determining whether any assessment tool should be utilised.

**Summary of Work:** Qualitative methods were used to explore the impact of the long case on student learning, from the perspectives of students as well as examiners. Three focus groups of final-year medical students (20 volunteers in total) and six semi-structured interviews of long case examiners were conducted at various clinical schools affiliated with the University of Melbourne. Thematic analysis was used to interpret the data.

**Summary of Results:** Students and examiners acknowledged the variability inherent within the long case assessment process, with students finding long cases stressful though ultimately worthwhile. There was general consensus that the long case had a significant educational impact, with the allocation of marks being a necessary motivator for students. Both groups viewed the long case as a powerful driving force for students to spend extended periods of time with patients and having a vital role in the development of fundamental clinical skills. The long case was thought to be valuable, highly authentic, and the only assessment to promote a holistic approach to patients.

**Discussion and Conclusions:** This was the first in-depth qualitative study of the traditional long case's substantial educational impact, emphasising its important place within a program of clinical assessment. Further research is needed to determine how an instrument with such rich educational potential can be optimised for the advancement of student learning.

**Take-home Messages:** This study provides empirical evidence of the long case's positive educational impact, suggesting that the removal of this assessment tool is likely to decrease student engagement with patients on the wards. In spite of challenges around reliability and case specificity, this work emphasises that the long case assessment has an important function within a program of assessment.



## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL06 (3066)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Effective Auto-Evaluation of Clinical Competence in Undergraduate Oversized Groups Using Low-Cost Technology

#### AUTHOR(S):

- Edgar Israel Herrera Bastida, Anahuac University - Health Sciences Faculty, Mexico (Presenter)
- Montserrat Urban, Facultad de Ciencias de la Salud - Universidad Anáhuac México Norte, Mexico
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#### ABSTRACT

**Background:** Currently, undergraduate student groups are very numerous and the time to evaluate and measure these skills is increasingly limited and more expensive. Undergraduate students always expect to have evidence of their performance and feedback. In order to obtain and maintain accreditations, medical schools need evidence of teaching and assessment of objective evaluations in clinical competencies of undergraduate students.

**Summary of Work:** Throughout their undergraduate studies, students can access the simulation center (SC) website; to receive online training before practical sessions in the SC (videos, rubrics, VR). It is common that there is not enough time for personalized feedback, so upon signing the consent of the participants, the students use their telephones, to videotape their performance and upload the video that they consider represents their best performance. Participants realize without know it a self-evaluation of their performance; the professor then has the opportunity to evaluate the performance of each participant and send privately the result of their rubric with comments aimed at improving their performance. The economic cost of this methodology is zero for the university and the students.

**Summary of Results:** This methodology has been used since 2017, 1140 students have been evaluated in more than 15 different basic skills such as taking vital signs, clinical questioning, application of medicines. Students performance has been compared using an OSCE that uses the same reference rubrics, a positive relationship was found in a linear regression study between performance improvement and the number of videos uploaded on the website ( $p = 0.002$ ).

**Discussion and Conclusions:** This methodology helps to generate objective evidence of performance and will allow identifying later changes throughout the academic life of the participants in an objective manner; although the economic cost is zero or very low, it still requires time on the part of the teachers and training on the most appropriate way to offer feedback that motivates the participant to identify and strive to improve their performance.

**Take-home Messages:** The use of low-cost technology and tools like smartphones that undergraduate students are familiar with has proven to be a strategy that has proven effective in fostering self-evaluation thinking and improving on later assessments such as the OSCE.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL07 (1683)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Theoretically and empirically-informed narrative descriptions of competency development

#### AUTHOR(S):

- Jacqueline Raymond, University of Sydney, Australia (Presenter)
- Rebecca Sealey, James Cook University, Australia
- Deborah Pascoe, Federation University Australia, Australia
- Fiona Naumann, Queensland University of Technology, Australia
- Sue McAllister, University of Sydney, Australia

#### ABSTRACT

**Background:** Determining whether a student has demonstrated readiness to enter their profession, particularly in professions where semi-autonomous practice is required on graduation, is challenging. Discourse regarding performance assessment has moved from measurement and psychometric validity towards the value of qualitative approaches and narratives to support sound judgement of readiness for practice. The objective of this study was to develop narrative descriptions of competency development. The research questions were: (i) how do experienced clinicians describe students who are developing their clinical competency, and (ii) how do they describe a student who is ready for semi-autonomous professional practice? We investigated these questions within the profession of clinical exercise physiology (CEP). CEP is a role emerging health profession in Australia and therefore is in the early stages of articulating its understanding of readiness for practice and related assessment of performance.

**Summary of Work:** A social constructivist theoretical perspective informed the methodology. Across three focus groups, 17 CEP clinicians with clinical educator experience were asked to describe (i) what students who are developing their clinical competency 'look like' and (ii) what students who were ready for professional practice 'look like'. Data saturation was reached at the third focus group. A thematic analysis identified the behavioural constructs describing competency development which were then used to write three narrative descriptions of points along a competency continuum. These narrative descriptions were further evaluated and refined through semi-structured interviews.

**Summary of Results:** The behavioural constructs which informed the narrative descriptions included: consistency, managing complexity, flexibility, safe practice, independence and insight into own performance. Participants considered the narrative descriptions to accurately describe the continuum of competency development and a student who is ready for professional practice.

**Discussion and Conclusions:** The narrative descriptions fit with contemporary discourse on assessment in clinical workplace settings. The narrative descriptions may be useful in providing support for quality judgements of students' performances in the workplace setting. That is, the narrative descriptions could be used as reference points by those constructing their judgements of student performances.

**Take-home Messages:** The broad behavioural constructs in the narratives may be relevant to other health professionals' practice.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL08 (1794)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### TOSCE in Obstetric Emergency: Good for improved IPE

#### AUTHOR(S):

- Prakarn Ongartboon, Phrae Hospital, Thailand (Presenter)

#### ABSTRACT

**Background:** In conducting a practical exam for a multidisciplinary team, TOSCE: Team OSCE is a teaching method which enhances individual clinical ability skills and improves understanding between roles, relationship building and teamwork.

**Summary of Work:** A group exam was organized with teams of five, consisting of one internship doctor and four nurses. The exam was in the subject of obstetrics and was conducted in the form of TOSCE, which consists of several case problem-base stations including PPH / shoulder dystocia / Eclampsia / prolapsed cord / Breech presentation and neonatal resuscitation. The examiners provided the team with questions to study and perform multidisciplinary treatments. Each base exam took 30 minutes. Evaluators consisted of medical and nursing professors. Once completing all of the exams, a summary was provided and each person commented on this type of exam.

**Summary of Results:** It was found that each person achieved a high score in medical treatment subjects. Furthermore it was found that group's scored well in communication, planning and providing information. Everyone had fun and were satisfied with this type of exam. Most people commented that this type of exam made the importance of their role very clear.

**Discussion and Conclusions:** This experiment found that using TOSCE exams in obstetrics is useful in developing multidisciplinary teaching skills in clinical competency and understanding the role of other professions involved in the care and treatment of patients, especially in a profession that requires teams to work such as emergency obstetrics / surgery/ Trauma. TOSCE can be used in exams to evaluate both the individuals ability and teamwork skills to develop inter-professional teaching techniques for becoming a multidisciplinary professional.

**Take-home Messages:** TOSCE is a method that will useful to the development of teaching and learning in IPE.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL09 (2919)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluating Competences for Teamwork Among Medical Students

#### AUTHOR(S):

- Claudia Araya Becerra, Universidad San Sebastian, Chile (Presenter)
- Maria Ines Romero Sepulveda, Ministerio de Salud, Chile

#### ABSTRACT

**Background:** Teamwork is a key competence that all health professionals should have, since it contributes to a better care for patients and to the effectiveness of work. Medical undergraduate education in Chile lasts 7 years and teamwork is included as early as first year, recognizing its crucial importance. The School of Medicine at Universidad San Sebastian has developed the course called “Problem-Based Learning” in first year that uses this methodology to discuss relevant issues of medicine like medical professionalism, ethics in medicine, big public health problems, among others. Students work in small groups to facilitate active participation. The objective of this study was to measure students’ effectiveness for teamwork.

**Summary of Work:** Competences for teamwork were evaluated through the Villa & Poblete instrument that takes into account self-appraisal and peer evaluation and that measures generic competences through dimensions like “active participation and collaboration with group tasks”, “mutual confidence”, “empathy” and “orientation to group task”. A seven points scale was used, being 7 the best and 1 the worst.

**Summary of Results:** Results are presented in average points. Students showing abilities for teamwork reached 6-7 points as self-appraisal and same points as peer evaluation. Among these students there was a group very self-demanding, evaluating themselves one point below those assigned to them by their peers. The students who did not accomplished the group tasks as expected and did not work as a team assigned themselves an average of 4-5 and their peers evaluated them 3 to 4 points below the self-assigned points. Interesting enough these students recognized those classmates with competences for teamwork and evaluated them 1 to 2 points over the self-assigned points.

**Discussion and Conclusions:** The majority of medical students showed competences for teamwork demonstrating that they were able to develop and improve such competences. The students that show competences for teamwork are able to objectively evaluate competences for teamwork in themselves and in their peers.

**Take-home Messages:** Teamwork is a key competence for health professionals and Schools of Medicine should provide as many opportunities as possible to develop and master such important competence.



## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL10 (600)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Do CREOG exam scores reflect performance in local assessments and Arab board exams in an AGCME-I residency program?

#### AUTHOR(S):

- Hessa Al Suwaidi, SEHA, UAE (Presenter)
- Neha Gami, Healthplus Clinic, UAE

#### ABSTRACT

**Background:** The Council on Resident Education in Obstetrics and Gynecology (CREOG) in-training examinations has been used to predict the successful performance on ABOG written examination for residents in AGCME programs. Obstetrics and Gynecology residents in Abu Dhabi also perform the CREOG exams annually. During their residency, the residents have to pass Arab Board Part 1 and Part 2 get their medical license. There are also periodic exams based on the guidelines of local bodies to assess the knowledge of residents. The aim of this study was to see if there was any correlation between the CREOG score and Arab Board and local Departmental Exam performance of Obstetrics and gynecology residents in Abu Dhabi.

**Summary of Work:** CREOG scores of Obstetrics and gynecology residents in Abu Dhabi were retrospectively studied. The data from 2014-2017 was included in the analysis. These scores were correlated with Arab Board and Departmental exam of the residents. The correlation was assessed using Pearson's Coefficient.

**Summary of Results:** Data for CREOG scores was available for only 22 residents over 2014-2017. The mean score of CREOG was 40.9% while mean score of the Departmental exam was 70.8%. We found positive correlation between CREOG scores and Arab board exam with the Pearson's Coefficient being 0.733 ( $p = 0.001$ ). The Pearson's Coefficient for CREOG scores and the performance in Departmental exam was 0.960 ( $p = 0.000$ ).

**Discussion and Conclusions:** Our study has similar results to the findings of other studies, where they found positive correlation between USMLE and CREOG scores. Thus, just like CREOG scores can be used to identify the residents who will pass ABOG written examination, similarly in the context of UAE, CREOG scores can be used to predict which residents will pass the ARAB board part one exam in the first attempt. Larger studies are needed to support these initial results.

**Take-home Messages:** Our study, although very small, shows a correlation between the performance of the residents on CREOG exams and the Departmental and Arab board examinations.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL11 (640)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Validity Evidence Supporting Computer-Based Test and OSCE Scores at 4th-Year Predicting National Board Examination Performance Following 6-Year Undergraduate Medical School in Japan

#### AUTHOR(S):

- Shoko Horita, The University of Tokyo, Japan (Presenter)
- Yoon-Soo Park, University of Illinois College of Medicine, USA
- Daisuke Son, The University of Tokyo, Japan
- Masato Eto, The University of Tokyo, Japan

#### ABSTRACT

**Background:** In Japan, the National Board Examination (NBE) is a key examination that determines the qualification for training doctors. Some studies in Japan suggest that results of Computer-Based Test (CBT) scores, administered prior to clinical clerkship (CC) predicts the result of NBE. However, there are few studies that comprehensively analyze the longitudinal predictive associations between the CBT, pre-CC OSCE, post-CC OSCE and NBE. This study identified factors that predict the result of NBE by integrating the high-stakes examinations before graduation.

**Summary of Work:** Data were analyzed using 69 medical students graduated at The University of Tokyo. Students were invited to answer surveys asking their daily activities and study behaviors, such as meals, sleeping, self-studying hours, part-time job hours, and social activity hours. Survey responses were merged with performance on pre/post-CC OSCE, computer-based test (CBT), CC scores, the results of Japan Residency Match Program (JRMP) and the results of National Board Examination and were analyzed using the statistical software JMP(R).

**Summary of Results:** Performance of CBT was significantly predictive of NBE placement (Odds ratio: 19,  $R^2=0.0830$ ,  $p < 0.001$ ). Furthermore, performance on pre- and post- CC OSCE were also substantially correlated to NBE placement (Odds ratio divided by ROC threshold: 14.7/31.5,  $R^2= 0.197/0.234$ ,  $p < 0.05$  each). However, daily activities including meals, commuting time, sleep, social activities, and part-time-job-hours did not have significant relationship with NBE placement. On the other hand, multiple regression analysis of post-CC OSCE against pre-CC OSCE and CBT revealed that these two factors were closely related to post-CC OSCE scores ( $F=12.77$ ,  $p < 0.001$ ).

**Discussion and Conclusions:** The placement on NBE is significantly related to high-stakes examination scores such as pre-CC OSCE, CBT (both executed before CC) and post-CC OSCE (administered after CC, before graduation and NBE). Moreover, performances on pre-CC OSCE and CBT scores predict the performance on post-CC OSCE. These findings suggest that the placement on pre-CC OSCE and CBT predict the outcome at NBE.

**Take-home Messages:** To deliver excellent educational outcomes, findings from this study promote educators to encourage medical students to achieve acceptable and competent performance prior to beginning their clinical clerkships.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL12 (1729)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Lecturers' conceptions of assessment and other factors influencing how they practice assessment

#### AUTHOR(S):

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- Francois Cilliers, University of Cape Town, South Africa

#### ABSTRACT

**Background:** Assessment is universally practised in health professions education and has profound consequences, ultimately affecting patient care and public safety. In some institutions, lecturers enjoy considerable autonomy when designing assessment. Efforts to enhance assessment practice are ubiquitous but not always effective and might be enhanced by understanding what factors influence lecturers' assessment practice. While research suggests that conceptions are one such factor, there is little published literature regarding either lecturers' conceptions of assessment or what other factors influence how they design assessment. This begs the question: What spectrum of conceptions do lecturers hold about assessment and what influences how they design assessment?

**Summary of Work:** Semi-structured interviews were conducted with 18 lecturers responsible for managing assessment of final-year undergraduate medical students at two institutions. Phenomenographic analysis to explore lecturers' conceptions of assessment at one institution was completed before undertaking data collection and analysis at the second. Thematic analysis guided by health behaviour theory was undertaken to explore factors influencing assessment practice.

**Summary of Results:** Phenomenographic analysis identified a spectrum of conceptions on a continuum of "Clinician"- "Clinician-Educator"- "Educator". The dimensions of lecturers' conceptions include identity (clinician to educator), knowledge (naive to sophisticated), practice (unquestioning and rules-based to critical and evidence-based), agency (defer to authority to empowered) and perspective/purpose (today and task-driven to future practice and competency-driven). In addition to conceptions, thematic analysis revealed that assessment practice is also shaped by personal and contextual factors such as perceived self-efficacy, response-appraisal, attitude and barriers.

**Discussion and Conclusions:** Conceptions and factors gleaned from data at one institution have been partially validated by data from a second. Further validation is currently underway. Lecturers' conceptions of assessment appear to be an important factor in shaping assessment practice. The variations of the dimensions and categories, as well as other personal and contextual factors, could thus be considered in the design of faculty development programmes and assessment development programmes that seek to transform assessment design and practice.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL13 (1455)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Comparison of the reliability of three methods used for peer assessment

#### AUTHOR(S):

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- Thanin Rianpairoj, Faculty of Medicine, Chulalongkorn University, Thailand
- Danai Wangsaturaka, Faculty of Medicine, Chulalongkorn University, Thailand

#### ABSTRACT

**Background:** Teamwork is an important competency of health professions in the 21st century. Peer assessment is undoubtedly instrumental in assessing teamwork as it belongs to the 'does' level in Miller's pyramid. However, the utility of assessment in each context should take reliability into consideration as well. Therefore, this study aims to compare the reliability coefficients obtained from three methods of peer scoring.

**Summary of Work:** Data of peer assessment in 'Doctor and Society' course in 5 academic years (2014-2018) were analysed (123 groups with 10-16 members in each group). After working together for a semester, Year 1 students were asked to rate their group members using 3 methods: (A) 'Free Rating Method' using 11-point rating scale (0-10); (B) 'Alphabet Method' using 5-point rating scale (outstanding, very good, good, borderline and unsatisfactory) with limited numbers of peers whom raters could give outstanding and very good ratings; and (C) 'Percentage Method' which raters were asked to distribute a score of 100 to their group members. Reliability coefficients of peer assessment were calculated by G-String V programme. The G-coefficients obtained from the three methods were compared using Wilcoxon signed-rank tests.

**Summary of Results:** 'Free Rating Method' resulted in the G-coefficients ranging from 0.14 - 0.96 with 21% of the coefficients more than 0.90. The G-coefficients obtained from 'Alphabet Method' ranged from 0.64 - 0.95 with 86% of the coefficients greater than 0.90. The G-coefficients from 'Percentage Method' were from 0.34 - 0.96 with 88% of the coefficients higher than 0.90. Overall, the 'Alphabet Method' yielded the highest reliability coefficient with statistically significant difference between this method and the 'Free Rating Method' ( $Z=-9.451$ ,  $p<0.001$ ); and between this method and the 'Percentage Method' ( $Z=-8.173$ ,  $p<0.001$ ). There was also statistically significant difference between the 'Free Rating Method' and the 'Percentage Method' ( $Z=-7.860$ ,  $p<0.001$ ).

**Discussion and Conclusions:** The 'Alphabet Method' is the most reliable for peer assessment of teamwork in our context. Rater orientation together with an appropriate context for group work is fundamental to attain this.

**Take-home Messages:** Peer assessment for summative purpose in undergraduate medical education can be of high reliability.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL14 (1456)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### The acceptability of peer assessment of group work participation among medical students

#### AUTHOR(S):

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- Thodsawit Tiyarattanachai, Faculty of Medicine, Chulalongkorn University, Thailand
- Danai Wangsaturaka, Faculty of Medicine, Chulalongkorn University, Thailand

#### ABSTRACT

**Background:** Peer assessment was developed as a tool to facilitate authentic assessment among students in group work settings. It has been implemented at Faculty of Medicine, Chulalongkorn University in various courses throughout 6-year curriculum. A key to successful implementation of the tool is the acceptance by students. This study was conducted to evaluate the perception of students on peer assessment.

**Summary of Work:** Self-administered questionnaires were distributed to Year 3 students at the end of Respiratory System II courses from academic year 2014 to 2018. Students rated items in the questionnaire on 5-point rating scale (1=strongly disagree, 5=strongly agree). The students were categorized by GPAX into 3 groups (<3.00, 3.00-3.74, >=3.75) for ANOVA to be used to demonstrate statistically significant difference in the responses among them.

**Summary of Results:** The response rate was 92% (1,406/1,530). Seventy-two percentages of the participants were comfortable to assess their peers. Almost all of them claimed that they assessed other students fairly (95%); and peer assessment did not increase their own group work participation (92%). Half of them (50%) believed that it encouraged others to contribute more to group work with only 24% believing that peer assessment caused conflicts among group members. However, only 55% agreed/strongly agreed that there should be peer assessment.

There was no statistically significant difference among students in different GPAX groups in acceptance of peer assessment (p-value 0.18 - 0.68) except for the item 'there should be peer assessment'. Students with high GPAX seemed to agree with this statement more than the others (3.72 vs 3.49 vs 3.39; p = 0.013).

**Discussion and Conclusions:** Peer assessment was, in some degree, accepted by the medical students as a tool to assess contribution to group work. Further study on other factors which might affect their acceptance of peer assessment is crucial.

**Take-home Messages:** Although peer assessment has been implemented in your institution for many years, we recommend periodic evaluation in order to ensure the utility of peer assessment.



## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL15 (2445)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Usefulness of PBL peer evaluation as a predictor of performance after graduation

#### AUTHOR(S):

- Ye Ji Kang, Sungkyunkwan University, South Korea (Presenter)
- Hyewon Jang, Sungkyunkwan University, South Korea
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- Yon ho Choe, Sungkyunkwan University, South Korea

#### ABSTRACT

**Background:** Peer evaluation is often utilized to measure students non-cognitive competency as well as cognitive competency during PBL curriculum in medical school. The former is usually related to communication skills, cooperation, responsibility, and so on, which are similar to the competencies necessary for the successful outcome during internship and residency program. This study examined the usefulness of PBL peer evaluation as a tool to predict internship performance after graduation.

**Summary of Work:** Among the 44 graduate students of Sungkyunkwan University School of Medicine in 2017, this study was conducted on the 26 students who completed internship at Samsung medical center. The main data used for the study were the following: (1) the PBL peer evaluation (PPE) score in year 4 (2) the result of comprehensive clinical knowledge assessment (CCA) in year 6 and (3) the grade after completing one-year internship program (A, B, and C).

**Summary of Results:** The mean of CCA and PPE were 65.15(SD=4.06) and 168.68(SD=7.23) respectively. Male students (N=14) tended to score higher than female (N=12) in PPE (mean =169.48, SD=6.02 vs. mean = 167.75, SD=8.61  $P>0.05$ ), however, lower than female in CCA (mean=64.07, SD=4.29 vs. mean =66.42, SD=3.53,  $P>0.05$ ). Among the 26 study members, 5 students got A (group A), 15 received B (group B), and 6 got C (group C) for the internship grade. On the spearman correlation analyses, PPE score and internship grade showed significant positive correlation ( $r = 0.441$ ,  $p < 0.05$ ), while there was no significant correlation between CCA score and internship grade.

**Discussion and Conclusions:** The result of medical students' peer assessment during PBL curriculum has shown positive correlation with clinical performance during internship program, while their academic score showed no correlation.

**Take-home Messages:** Therefore, the PBL peer evaluation could have the potential as a tool to predict students clinical performance after graduation.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL16 (2894)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Ratings of Performance in Multisource Feedback: Comparing Performance Theories of Residents and Nurses

#### AUTHOR(S):

- Muhammad Tariq, Aga Khan University, Pakistan (Presenter)

#### ABSTRACT

**Background:** Multisource feedback (MSF), or 360-degree evaluation, is increasingly being used in assessing trainee performance. Raters use multidimensional conceptualizations to distinguish between various behaviors and sub competencies when assessing trainee performance in work settings, also called performance theories. This may not only explain assessor variability in Multi Source Feedback, but also result in differing acceptance (and use) of assessment data for developmental purposes. The purpose of this study was to explore performance theories of various assessor groups (residents and nurses) when assessing performance of residents.

**Summary of Work:** The study was conducted at the Aga Khan University in the Department of Medicine. An explanatory sequential mixed methods design was used. Quantitatively, 103 MSF self-ratings by the residents were included. In the qualitative part of the study, a constructivist, inductive research approach and conducted semi-structured interviews with 14 nurses and 15 residents involved in MSF procedures in Internal Medicine residency training at Aga Khan University (AKU; Pakistan) to explore performance theories.

**Summary of Results:** PCA of the quantitative data showed a single construct identified as professional behavior (Cronbach's  $\alpha = .91$ ). Seven major themes related to performance theories emerged from our data, namely; communication skills, patient care, accessibility, teamwork skills, responsibility, medical knowledge and professional attitude. There were considerable overlaps, but also meaningful differences in the performance theories of residents and the nurses, especially with respect to accessibility, teamwork and knowledge.

**Discussion and Conclusions:** Different assessor groups may hold different performance theories. This may help explain assessor variability in MSF assessor ratings. When evaluating resident performance, differences may exist with respect to valuing of non-cognitive competencies, which can be considered as important as medical knowledge -or even more important. A better understanding of performance theories would help programme directors to develop profiles of outstanding, problematic and average residents, help develop more meaningful assessment tools and criteria and improve the quality of the assessment programme.

**Take-home Messages:** Non-cognitive competencies such as communication and other behavioral competencies are considered far more important than other competencies. Both residents and nurses also emphasized teamwork skills. Practical implications include training of the assessor groups; encourage assessors groups to engage in discussion about effective performance, and performance expectations.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

**10LL17** (2439)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Evaluating the impact of the implementation of self-assessment in PBL tutorials: Does it improve students' learning?

**AUTHOR(S):**

- Umatul Khoiriyah, Faculty of Medicine Universitas Islam Indonesia, Indonesia (Presenter)

**ABSTRACT**

**Background:** Self-assessment is believed as one of assessment method that could enhance students' learning. Faculty of Medicine Universitas Islam Indonesia has employed self-assessment in PBL tutorials as an attempt to increase the learning quality in PBL tutorials. This study was aimed to evaluate the impact of the implementation of self-assessment in PBL tutorials.

**Summary of Work:** The study was a mix method study. First-year student (n=95) during the second block (Neuromusculoskeletal) evaluate their own tutorial performance in each learning unit using a self-assessment tool (Self-assessment Scale on Active Learning and Critical Thinking/ SSACT). Tutors then provided written feedback on each students' self-assessment form. Students filled MSLQ (Motivated Strategies for Learning Questionnaire) form before and after the block running. This data was analysed quantitatively. At the end of the Neuromusculoskeletal block, students filled an open questionnaire regarding their experience in applying self-assessment. Qualitative analysis using thematic analysis was then conducted.

**Summary of Results:** Based on the analysis of MSLQ, students' motivation was increased significantly after the implementation of self-assessment ( $p < 0.05$ ); however, the implementation of learning strategies such as cognitive-meta cognitive strategies and the use of learning resources did not significantly change ( $p > 0.05$ ). Qualitative data indicated that self-assessment enhanced learning motivation, facilitated self-reflection, provided direction to conduct self-improvement and stimulated to apply various learning strategies.

**Discussion and Conclusions:** Self-assessment in PBL tutorials could motivate students to learn better. Even though the quantitative analyzed indicated that there was no significant improvement in students' capability to apply learning strategies, the qualitative data showed that students obtained many learning benefits from self-assessment. Students experienced that it could help them to identify the learning gap by which they activated their cognitive and meta cognitive process. Self-assessment also gave them direction to take learning improvement. All of these impacts might increase when self-assessment is applied longer in PBL tutorials.

**Take-home Messages:** Self-assessment could be one alternative method to assist students' learning in PBL tutorials.

## #10LL Posters - Assessment: Clinical, Peer and Self Assessment

### 10LL18 (990)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Verify a performance assessment rating scale for evidence-based healthcare evaluation

#### AUTHOR(S):

- Chien-Chih Wu, Taipei Medical University Hospital, Taiwan (Presenter)
- Yi-No Kang, Taipei Medical University Hospital, Taiwan
- Chien-Yu Chen, Taipei Medical University Hospital, Taiwan
- En-Yuan Lin, Taiwan Adventist Hospital, Taiwan

#### ABSTRACT

**Background:** Many studies investigated the assessment of EBHC, yet most of them were standardized assessment. There is a performance assessment rating scale (EBHC-PARS) that was used on national EBHC competition, but no study verified the quality of EBHC-PARS. Therefore, this study aimed to verify the EBHC-PARS.

**Summary of Work:** Our study team designed a mock evaluation for tool verification. In this mock evaluation, experts evaluate 12 EBHC reports by using the EBHC-PARS. The expert selection was based on two criteria that defined beforehand. The two criteria are (1) expert should publish systematic review and meta-analysis, and (2) experts should have teaching experience in evidence-based healthcare. According to the criteria, we invited potential experts. Then, five physicians and two nurses participated in our study. To explore the tool quality, we did not call for consensus meeting before the mock evaluation. We also prohibited experts to communicate with each other before they complete the evaluations. The 12 EBHC reports presented full steps including asking a question, acquiring evidence, appraising evidence, and applying evidence in clinical practice. The EBHC-PARS consisted of 16 items. Three of the 16 items are about asking a structured question; four items are evidence acquiring, and the other four items are appraising. The final five items are applying evidence in clinical practice. The rating scale is from 1 (very poor) to 5 (excellent). We conducted intraclass correlation (ICC) and discrimination analysis for quality of the tool.

**Summary of Results:** In overall, the ICC value was .519, and the t-value for discrimination was 5.117 ( $p < .01$ ). In stratification, the ICC value from physicians was .508, and the t-value of discrimination was 4.234 ( $p < .05$ ). In nurse part, the ICC value was .565, and the t-value of discrimination was 10.322 ( $p < .001$ ).

**Discussion and Conclusions:** Our test found that the EBHC-PARS leads experts to achieve moderate reliability and also have good discrimination in EBHC performance reporting. However, how to improve reliability should be discussed in future.

**Take-home Messages:** The EBHC-PARS is choice for assessing EBHC ability. Consensus meeting may be needed before teachers use EBHC-PARS.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM01 (3270)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Student Taskforce for the nationwide implementation of Interprofessional Training Wards in Germany

#### AUTHOR(S):

- Lisa Schmitz, German Medical Students' Association (bvmd), Germany (Presenter)
- Aurica Ritter, German Medical Students' Association, Germany
- Jeremy Schmidt, German Medical Students' Association, Germany
- Peter Jan Chabiera, German Medical Students' Association, Germany
- Maryna Gornostayeva, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
- Jana Junger, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany

#### ABSTRACT

**Background:** Interprofessional collaborative practice (ICPC) is a key element of our healthcare system, indispensable for optimal patient care, proven by international studies. Latest developments in academic and health policy are focusing on strengthening interprofessional education (IPE). Nevertheless, interprofessional skills are no compulsory part in German medical curricula and most trainings occur mono-professionally. The aim of this project is a nationwide establishment of Interprofessional training wards (IPWs) as a fixed component of the education in the final year of medical students.

**Summary of Work:** The German medical students' association (bvmd) founded a student taskforce in collaboration with the German National Institute for state examinations in Medicine, Pharmacy and Psychotherapie (IMPP). The taskforce, consisting of ten medical students from six medical faculties, is involved in the whole implementation process of IPWs nationwide.

**Aims:** - connecting executing faculties and students - A "How-to"-Guide for student-led implementation - Standardized interprofessional EPAs and SOPs - A standardized scientific evaluation of student benefits and patients' outcome A relevant part of IPW has to be formative feedback optimally referred to uniform Entrustable Professional Activities (EPAs). Based on the concept of assessment drives learning these EPAs, building the fundament for future national licensing examinations, will lead to an improvement of know-how and skills.

**Discussion and Conclusions:** As medical students are the changemakers of tomorrow, they need to be empowered to take part in development processes and thus acquire new skills, which were not taught in recent curricula. The collaboration between engaged students and the IMPP offers great opportunities for both, by learning from each other and finding correlating aims, such as the implementation of nationwide IPWs.

**Take-home Messages:** IPE is the key for current challenges in health care system, thus needs to be an essential part of medical education and has to be trained in a multi-professional approach. To ensure the long-term establishment and support of IPWs to train next generation health workers, the collaboration, which created a student taskforce with know-how, structure and connections to all German faculties, is a great solution.



## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM02 (191)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Correlation in the student-generated asking question and Level of Bloom's Taxonomy in the medical students

#### AUTHOR(S):

- Narongwit Nakwan, Division of Pulmonology, Department of Medicine, Hatyai Medical Education Center, Songkhla, Thailand (Presenter)

#### ABSTRACT

**Background:** Asking question helps either student or teacher targeting to learning objectives and outcomes, promoting a higher-ordered thinking and encouraging personal learning skills. Bloom's Taxonomy (BT) is a level of intellectual behaviour in learning process, moreover it helps to generate phrasing suitable challenging questions. The aim of study is to evaluate the correlation of asking question in medical students and level of BT.

**Summary of Work:** We performed a paper survey inviting 87 medical students to participate. They were asked to complete the questionnaire. Questions asked included whether what type of question they do prefer based on BT, whether what action verb do they use in asking question.

**Summary of Results:** We found 100% medical students were unfamiliar to the level in Bloom's hierarchy. According to the level of BT, 63.2% preferred the asking question on application, 14.9% on understanding, 13.8% on analysis, 4.6% on creativity and 3.1% on remembering. In the same way, 67.8% thought that the asking question on application is the most powerfully stimulated question for learning. The action verbs which they selected in asking question were for; application (22.7%), understanding and knowledge (21.7%), analysis (21.6%), evaluation (19.4%) and creation (14.6%). The action verbs commonly using in asking question were for apply, reason, compare, utilise, conclude and explain, respectively.

**Discussion and Conclusions:** Although the level of BT is essential in intellectual activity of learning, no medical student familiar this hierarchy. Thus, unsurprisingly, they are quite prefer asking question for application and knowledge. According to BT, the most effective asking question developing higher-ordered critical thinking and promoting deep learning should be asking question for evaluation and creation. The medical teacher might guide and facilitate the student's mindset on action verb leading to high ordered critical thinking question. All students are unfamiliar to TK and the asking question for evaluation is the most common question type which our students prefer.

**Take-home Messages:** We believe that type of student generated-asking question, particularly in high ordered critical thinking question, will help our medical students developing effective answer and creative thinking in either self-active learning or group-learning classroom.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM03 (1473)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Should student-led teaching be incorporated into the medical school curriculum?

#### AUTHOR(S):

- Edward Fenby, King's College London, UK (Presenter)
- Eugene Ace McDermott, King's College London, UK
- Mariam Koronfel, King's College London, UK
- Afra Jiwa, King's College London, UK

#### ABSTRACT

**Background:** Teaching is a core requirement for newly-qualified doctors as per the GMC's 'Outcomes for graduates' 2018. The importance of doctors being effective teachers should not be overlooked; one study has shown that medical students in the USA attribute... " of their learning to teaching from hospital staff (Bing-You and Sproul, 1992). This skill is often overlooked in the medical curriculum, leading to doctors taking on a new role as teachers with little to no experience. Student-led teaching programmes have been used to successfully supplement the core curriculum and provide teaching skills and experience.

**Summary of Work:** A primary literature search of peer-reviewed articles on MEDLINE was conducted to investigate how student-led teaching has been used and ways in which this could be incorporated into the curriculum. A secondary search was carried out to identify recognised methods of assessing teaching skills.

**Summary of Results:** To date, most schemes have had no formal involvement of medical schools. One key finding is that objectively measuring teaching programs is difficult to achieve. Literature has highlighted common key areas which make an effective teacher, and ways in which this can be achieved. Examples include self-reflection, and feedback from both students and experienced teachers.

**Discussion and Conclusions:** Teaching should form part of the formal, compulsory medical curriculum. Although student-led schemes may be effective to develop high-quality teaching skills, feedback and mentoring from experienced teachers is required, which students cannot accomplish alone (Ralhan et al., 2012). In addition, Ralhan et al. highlight the importance of standardised assessment methods, which would be required if this were to form part of the official curriculum. As such, input is required from the medical schools themselves. Using these recommendations, we suggest a standardised method of assessment for schools, overcoming a major barrier to university-run student-led teaching implementation (Topping, 1996).

**Take-home Messages:** A standardised assessment tool should be used to help incorporate student-led teaching into the medical curriculum in order to improve teaching skills.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM04 (1854)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Keep calm and plan properly! What medical students on a research project course recommend their peers in order to succeed

#### AUTHOR(S):

- Riitta Moller, Karolinska Institutet, Sweden (Presenter)
- Maria Shoshan, Karolinska Institutet, Sweden

#### ABSTRACT

**Background:** In order to provide high-quality health care, the skills of searching, reading and critically appraising literature have to be established already during undergraduate education. Therefore, many medical schools worldwide have integrated formal training in scientific and research-related skills within the core curricula. The quality of supervision but also students' attitudes and qualifications are of importance for the accomplishment of the projects. Here, we have explored which student qualities medical students themselves perceive as necessary for a successful research project course.

**Summary of Work:** A cross-sectional questionnaire study. 650 students registered on a compulsory research project between 2011 through 2013 were e-mailed a questionnaire after completed course. 452 (70%) returned the questionnaire; 309 students (mean age 26 years; 60% females) answered an open-ended question about important characteristics of a successful student. The answers were analyzed by manifest content analysis.

**Summary of Results:** In total 7 categories emerged as perceived key qualities in a successful student: Time management, Curiosity, Responsibility, Organizational skills, Willingness to learn, Commitment, and Initiative. In addition, forthright communication with supervisors and courage to ask for help or advice were also brought up.

**Discussion and Conclusions:** Few studies have examined medical students' own perceptions of key qualities in students. This study is unique in that it gathers such data directly from students who have just finished a mandatory research project. Medical students who start scholarly projects often lack the experience to carry out an entire research process and may often find it difficult to understand what is required of them in order to successfully complete the projects. We show here that the students themselves perceive that executive functioning skills such as time management, organizational skills and communication skills as well as qualities such as curiosity and a willingness to learn are central for success. We and others have shown that supervisors appreciate the same qualities in students.

**Take-home Messages:** To gain the most from a scholarly project, students recommend their peers to be proactive, curious and well-organized.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM05 (3282)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Can National Licensing Board and medical students' associations work together? IMPPULS-Group - a nationwide students' task force at the German National Institute for state examinations in Medicine

#### AUTHOR(S):

- Aurica Ritter, German Medical Students Association (bvmd), Germany (Presenter)
- Jeremy Schmidt, German Medical Students Association (bvmd), Germany
- Peter Jan Chabiera, German Medical Students Association (bvmd), Germany
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- Ute Schlasius-Ratter, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany
- Jana Junger, The German National Institute for state examinations in Medicine, Pharmacy and Psychotherapy, Germany

#### ABSTRACT

**Background:** Students' engagement in development of competency-based education and assessment is important. However, student initiatives are often local and depend on the involved actors. So far, there was no cooperation between the IMPP as regulatory body and the medical students' association. Aiming at increased visibility of students projects as well as their consolidation and nationwide implementation, both institutes started a cooperation. The German Medical Students Association (bvmd) as a politically, religiously and ideologically unaffiliated institution, comprises and represents the approximately 90,000 medical students of 38 medical faculties in Germany. The IMPP provides the written parts of the national licensing examinations (NLE), and assesses 26,000 students each year. In 2016, the collaboration between bvmd and IMPP was founded and titled 'IMPPULS-Group'.

**Summary of Work:** During two workshops an innovative strategy was developed to empower students' projects and involve students in development and implementation of competency-based teaching and assessment methods. In regular meetings at the IMPP students' work is discussed and can be integrated into developmental process of medical education and NLE. Main subjects of the students' taskforce are the enabling of projects focusing on communication, competencies, or interprofessional collaboration to enhance medical skills, ensure patients safety and develop new examination concepts.

**Summary of Results:** By now, the IMPP collaborates closely with about 60 students of approximately 20 faculties on four projects: - Evaluation of medical NLEs - Designing OSCE-stations about organ donation - Extensive implementation of Interprofessional Training Wards - National standardized communication training

**Discussion and Conclusions:** In the past, the IMPP and the students association worked separately and perceived themselves rather negative. IMPPULS shows that the transformation into an extensive exchange is possible and allows to take the important students' perspective into account.

**Take-home Messages:** A strong cooperation between IMPP as regulatory body and the medical students' association is possible and fruitful for both sides. We hope this leads as an example for stronger involvement of students in the development of innovative teaching and assessment methods.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM06 (3068)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Student Engagement in Curriculum Development: A first for The University of The West Indies Faculty of Medical Sciences, Jamaica

#### AUTHOR(S):

- Nikolai Nunes, UWI Mona Campus, Jamaica (Presenter)
- Christine Walters, UWI Mona Campus, Jamaica
- Tomlin Paul, UWI Mona Campus, Jamaica
- Colette Cunningham-Myrie, UWI Mona Campus, Jamaica

#### ABSTRACT

**Background:** Commensurate with increasing global health workforce demand, the Faculty of Medical Sciences (FMS), Mona has doubled its physician output in the last decade. This shortage impacts the English-speaking Caribbean, our neighbors in Latin America, and traditional West-Indian immigrant North American cities with abundant native Spanish speakers. FMS, Mona has embarked on an innovative student engagement approach in the ongoing development of a medical Spanish curriculum. An important step in any curriculum development is a needs assessment.

**Summary of Work:** In a first for curriculum development at the FMS, Mona, student engagement was employed via student leaders of the Jamaica Medical Students' Association and class presidents working with faculty to develop a student survey that sought students views and input into the structure and delivery of a medical Spanish course. Student leaders refined the survey with respect to potential course structure and integration by Delphi analysis, followed by publicizing the online survey which was delivered via REDcap software to approximately 1200 first to fourth year medical students.

**Summary of Results:** 141 students responded, the majority being third and fourth year (59%), aged 18-38 (median 22), and female (75%) in keeping with the medical school's demographics. For the majority, English was the native language (94%), 12% were bilingual, 2% trilingual. About 90% had been taught Spanish in high school (6 weeks to 11 years). Approximately 80% expressed an interest in increasing their Spanish literacy, 14% potentially open to the opportunity for such, and 6% were not interested. Three main themes emerged from the open-ended portion of the survey: 1) concerns regarding timing and placement of the course into the current curriculum, 2) an awareness of the general benefits of this added knowledge and cultural exposure and, 3) enthusiasm with respect to increasing marketability and career prospects.

**Discussion and Conclusions:** This pilot process of student engagement in curriculum development gauged student interest in introducing a new course and opinions on design, delivery, and expected outcomes.

**Take-home Messages:** This example of student engagement provides a possible template for future establishment of joint faculty-student teams. However, a follow-up enquiry to determine factors limiting student engagement would be of value in designing future faculty-student collaboration.



## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM07 (2657)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Factors affecting Medical Student Engagement in Institute of Medicine

#### AUTHOR(S):

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- Theeranit Namkune, Suranaree University of Technology, Thailand

#### ABSTRACT

**Background:** Student engagement is an important domain for medical education, which is a concept that involves preparing and creating readiness for adaptation to the university's academic life. It is one of the factors that contribute to student success. Student engagement is defined as an expressing opinions or attitudes and behavior of students which is a predictor of the quality of educational experience with interaction between teachers and students. In this study, we explored the level and factors affecting engagement.

**Summary of Work:** Participants were 229 medical students (1st, 2nd, and 3rd year medical students) by collecting data between 20 September - 3 October 2018. Student engagement was measured by using questionnaire for engagement assessment by used Likert 5-point scale. Also for academic assessment by used Likert 7-point scale. The statistical methods used to analyze the data included percentage, mean, standard deviation, and step-wise multiple regression.

**Summary of Results:** Student engagement was 3.73. Factors affecting medical student engagement were teacher ( $P = 0.01^*$ ), personnel ( $P = 0.01^*$ ), friends ( $P = 0.02^*$ ), and seniors ( $P = 0.03^*$ ) with significantly. Academic engagement in 1st, 2nd, and 3rd year medical students were 5.21, 4.87, and 4.22, respectively.

**Discussion and Conclusions:** Student engagement was at high level. Engagement is clearly predictive for academic achievement, and can influence of factors such as relationship between teacher, staff, their friends and seniors. In contrast, academic engagement tended to decrease in higher year, may causing from more complicated curriculum. The way to increase levels of student engagement such as being a role model teacher, developing the advisor system and creating an environment that encourages the relationship with all teacher, personnel, friends and seniors.

**Take-home Messages:** Medical institution should realize and set a policy in support of enhancing the quality of the student engagement.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MMo8 (1520)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Peer-to-peer small group tutoring improves knowledge and confidence for undergraduate clinical exams in both tutors and tutees

#### AUTHOR(S):

- Urvi Karamchandani, Imperial College London, UK (Presenter)
- Daniel Huddart, Imperial College London, UK
- Lasith Ranasinghe, Imperial College London, UK
- Husein Rajabali, Imperial College London, UK
- Adeela Ashraf, Imperial College London, UK

#### ABSTRACT

**Background:** Knowledge for Objective Structured Clinical Examinations (OSCEs) at medical school are largely attained through curricular-based activities during hospital placements. However, early clinical students find transition from pre-clinical lectures challenging. Peer-assisted learning provides a platform for additional support, where social and cognitive congruence allows fluid participation, leading to better learning environments. Concurrently, senior students benefit through development of their teaching and assessment skills.

**Summary of Work:** Third-year medical students at a UK university voluntarily enrolled into a peer-to-peer OSCE tutoring programme and matched to small groups with voluntary older students (average 2:1 respectively). Teaching schedules and content were formulated by individual groups to allow tailored tutoring. Feedback forms were collected from tutors and tutees to assess benefits of the programme after one academic year and retrospectively analysed. Students ranked responses to statements with a 5-point Likert-scale from strongly disagree to strongly agree.

**Summary of Results:** 182 tutees and 76 tutors completed feedback forms. 70% of groups met weekly, 14% met fortnightly, and <4% met less than once monthly. Sessions covered clinical examinations, focussed history taking, and clinical skills in order of decreasing frequency. Tutee responses: 92.7% found the programme identified gaps in their knowledge, 90.8% claimed it familiarised them with the OSCE format, and 96.2% felt more confident about their OSCE. Moreover, 81.9% found the programme better than lectures and 61.5% found it better than hospital-based bed-side teaching. Overall, 96.1% found OSCE tutoring useful and 91.2% were satisfied with their tutors. Tutor responses: 76.7% of tutors had prior teaching experience. 89.4% found peer-tutoring identified gaps in their knowledge, 92.1% claimed it consolidated knowledge and 89.4% felt more confident with teaching.

**Discussion and Conclusions:** The OSCE tutoring programme was effective in improving confidence in preparation for OSCEs for tutees and helped consolidation of knowledge and teaching skills for tutors. Students found this more useful than lectures and curricular-based bed-side teaching within hospitals as it familiarised them with the examination format and allowed individual practise and feedback.

**Take-home Messages:** A peer-to-peer small-group tutoring programme is a useful learning adjunct during early clinical years and should be implemented across other medical schools. Further work is required to correlate this with real assessment scores.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM09 (823)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Peer learning - Medical students learn from and with each other in placement training at the primary health center

#### AUTHOR(S):

- Carl Göranson, Bräckebackens Primary Health Center, Sweden (Presenter)
- Marie Lidskog, School of Medical Sciences, Örebro University, Sweden
- Fernando Freire, Bräckebackens Primary Health Center, Sweden
- Stefan Jansson, School of Medical Sciences, University Health Care Research Centre, Örebro University, Sweden

#### ABSTRACT

**Background:** Peer learning is an emerging educational concept in health education in Sweden and in other countries. Students, as peers, learn from and with each other. Studies show that students develop increased self-confidence, increased independence and confidence in their skill to solve problems and improve the ability for clinical reasoning. The aim of this pilot study was to further develop forms for clinical training which stimulate student active learning and to make the best use of available supervisor resources.

**Summary of Work:** During 2018, a peer learning activity was tested for medical students during their clinical training at a primary health center. Before the placement, students were informed of the peer learning project. Two students worked together. Before the meeting, the supervisor introduced the students to the tasks to be performed. The students prepared the reception together. At the patient meeting, one student took the active part and the other observed. The students took turns so that they were the active part in every two patient meetings. Feedback with supervisor and between students took place continuously after the visits and at the end of the day. The project was evaluated by a questionnaire to students and supervisors, and a student diary.

**Summary of Results:** Ten students agreed that they were completely instructed for the task, two agreed partly. Ten supervisors felt they gave instructions completely, five agreed partly and one didn't answer. On a scale of 1 to 5, students agreed on average 4.3 or more for questions regarding preparation, constructive feedback, facilitated learning and time for reflection and feedback. Supervisors agreed on average 4.1 or more for the same questions with focus on student learning.

**Discussion and Conclusions:** Although this is a pilot study, the results show that arranging a peer reception, both from student and supervisor perspective, has a positive effect. Diary writing in combination with peer reception contributes to the students gaining a deeper insight into their learning process and skills development. Larger studies are needed to confirm this.

**Take-home Messages:** A peer reception can create a deeper understanding of the learning process and its guidance.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM10 (1956)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:**

### Impact of near-peer tutoring weekly sessions on academic performance of first year medical students

#### AUTHOR(S):

- Mohammed Khalil, University of South Carolina School of Medicine Greenville, USA (Presenter)
- Emily Northey, University of South Carolina School of Medicine Greenville, USA

#### ABSTRACT

**Background:** Many medical schools implement near-peer tutoring (NPT) programs. Several studies have demonstrated the substantial benefits of NPT to both tutors and tutees. This study correlated the frequency of attending NPT weekly sessions to students' performance, and also compared academic performance of high attending and low attending students.

**Summary of Work:** Twenty-one weekly NPT sessions were delivered across all modules in the first-year (M1) by fourth and third-year medical students. The NPT weekly sessions lasted for about 90 minutes and covered around 30 questions per session. The 30 multiple-choice questions that follow USMLE Step 1 format were used to assess previous week materials. Attendance was recorded, and accordingly students were divided into three groups, high (15-21 sessions), moderate (7-14 sessions), and no-low (0-6 sessions) attendance groups. Pearson product-moment correlation coefficient was computed to assess the relationship between students' frequency of attendance and their overall performance in M1 year. Students' performance at the end of M1 year was also analyzed using ANOVA and Scheffé post hoc test ( $P < 0.05$ ) to compare difference between the three groups. In addition, students were asked to assess the academic value of NPT weekly sessions.

**Summary of Results:** An increase in number of attended NPT weekly sessions corresponds with an increase in students' performance ( $r=0.302$ ,  $n=104$ ,  $p=.002$ ). High attending students performed significantly higher than low attending students,  $F(2,101) = 8.876$ ,  $p = 0.00028$ . Students highly rated the weekly peer tutoring experience in improving their understanding of difficult concepts (4.5/5), monitoring the progress of their learning (4.5/5), helping with their academic progress in M1 year (4.5/5), and almost all agreed to recommend the peer tutoring sessions to their fellow M1 students (4.9/5)

**Discussion and Conclusions:** Attending NPT weekly sessions is a valuable experience that is associated with an improvement in students' academic performance. However, students who need to attend these sessions they usually don't attend.

**Take-home Messages:** Low performing students tend to miss attending NPT weekly sessions, although these sessions were effective in improving students' performance.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM11 (696)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Developing a Near-Peer Led Medical Innovation Programme for Preclinical Medical Students

#### AUTHOR(S):

- George Choa, UCL Medical School, UK (Presenter)
- See Chai Carol Chan, UCL Medical School, UK
- Oziegbe Eboreime, UCL Medical School, UK
- Ahmed Rashid, UCL Medical School, UK

#### ABSTRACT

**Background:** Healthcare is a constantly changing environment and innovation is an important part of the work of medical professionals. Although this is recognised by the World Federation of Medical Education global standards for basic medical education, UK-based medical schools have not integrated the teaching of innovation as much as those in North America, for instance. A recent example of innovative practice by medical schools is the introduction of Near-Peer Teaching (NPT), where senior students teach junior students with the advantage of social and cognitive congruences. For junior students, NPT has been shown to have similar or better outcomes than teaching delivered by faculty members. For senior students, it allows the development of greater proficiency in the topic and improvement of professional and communication skills.

**Summary of Work:** Under the Student Selected Component scheme, three senior medical students led and delivered eight weekly sessions on topics of medical innovation, including education, technology and entrepreneurship. Qualitative data from semi-structured focus groups, led by an academic, conducted on the near-peer tutors and first-year medical student tutees are coded and analysed thematically using NVivo. Structured evaluation questionnaires for tutees, completed at the end of the module, are also used for analysis.

**Summary of Results:** Teaching sessions are currently ongoing, with formal data to be collected and analysed before the end of March. Informal feedback shows tutees recognise the importance of learning innovation to supplement their core curriculum. Tutees also appreciate being taught by near-peers, and report development of transferable skills. Similarly, tutors describe greater confidence, improved teaching competence and increased understanding of the subject matter.

**Discussion and Conclusions:** We believe our findings on Near-Peer Teaching will encourage senior students to take on teaching roles and prompt medical schools to support these endeavours.

**Take-home Messages:** Innovating a medical school curriculum by adopting a near-peer teaching method to teaching can better engage students in their education by providing a safe learning environment.



## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM12 (3048)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Goal-Directed Near-Peer Led Clinical Skills Programme for Third Year Medical Students

#### AUTHOR(S):

- Umair Khan, Nobles Hospital, Isle of Man, UK (Presenter)

#### ABSTRACT

**Background:** Clinical skills training is a critical component of medical education, in particular for third year medical students who have not been exposed to clinical teaching previously. It is widely described that formal teaching on clinical skills is lacking in the standard medical school curricula. Near-peer teaching is a novel concept, whereby the teachers are senior than their learners, but are still peers. Junior doctors represent an untapped workforce to help develop clinical skills of medical students.

**Summary of Work:** We present the establishment of a unique immersive clinical skills bootcamp for third year medical students, with formal teaching under five key themes: procedural skills day, examinations, imaging, data interpretation and prescribing. Lastly a simulation event was developed to allow participants to bring the different themes together, in order to successfully manage an acutely unwell patient using the newly learnt skills.

**Summary of Results:** The bootcamp was delivered to 15 students who showed an interest. Feedback was overwhelmingly positive with a 100% success rate. All students feel more equipped to take opportunities that arise on medical wards as a result of the skills learnt. 93% of students agree a combination of OSCE, lectures and group discussions approach was useful in their learning. Most students (87%) agree the length of the course was appropriate. Average overall tutor teaching score throughout the bootcamp ranged from 9.5-10. All students would recommend this bootcamp to their peers.

**Discussion and Conclusions:** Early-year clinical students successfully received an immersive, goal-directed course with formal teaching delivered by junior doctors. The near-peer teaching model improved course evaluation by students.

**Take-home Messages:** We were able to successfully demonstrate that near-peer teaching is effective when it is goal directed, and further when it addresses areas of medical education whereby there is disparity in the formal teaching available.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM13 (1612)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### A peer-led introductory session for the first cohort of students at a new UK medical school

#### AUTHOR(S):

- Ronak Shah, University of Cambridge School of Clinical Medicine, UK (Presenter)
- Keerthi Senthil, University of Cambridge School of Clinical Medicine, UK
- Zaki Manan, Anglia Ruskin School of Medicine, UK
- Diana Wood, University of Cambridge School of Clinical Medicine, UK
- John Kinnear, Anglia Ruskin School of Medicine, UK
- Stephen Hughes, Anglia Ruskin School of Medicine, UK

#### ABSTRACT

**Background:** Anglia Ruskin University (ARU) is the first of five new medical schools in the UK. The first cohorts face establishing themselves without senior peers to offer guidance, especially on the “hidden curriculum”.

**Summary of Work:** Four medical students from Cambridge University gave a presentation to the first intake of students at the new ARU Medical School followed by a Question & Answer (Q&A) session, where students asked questions in person or anonymously via an online platform, Slido®. A retrospective evaluation form was distributed. By reporting the results and logistical insights, we hope to inform peers at established medical schools who wish to run similar sessions for other new medical schools.

**Summary of Results:** Thirteen responses to the form were obtained. Common questions before the session surrounded “student societies” (6 responses) and “learning/revision” (4). The majority, 11 students, considered the presentation and Q&A as equally helpful though 2 thought the Q&A was more helpful. Students chose the preferred stage of the medical students presenting (multiple responses allowed). The frequencies of each stage selected were as follows: first years: n=6, second years: n=9, third years: n=8, fourth years: n=9, fifth/sixth years: n=6. All, bar one, thought it convenient holding the session in the evening. Six students thought the 1.5 hours session was too long in duration. Slido®’s helpfulness was rated as 4/5 on average. Five students felt more confident about their studies following the session, with 8 still unsure and nobody feeling less confident. Overall, the session was rated 8.3/10 (range: 7-10) on average. All students considered it a valuable session.

**Discussion and Conclusions:** This session was rated well and was a useful contribution to ease anxieties of new students. Follow up including academic, social and sporting contacts have been arranged. Limitations include small sample size and retrospective dissemination of the form.

**Take-home Messages:** 1. This session was considered valuable 2. Key topics to cover: learning techniques and student societies 3. Helpful features include shorter sessions, evening scheduling, use of Slido® and Q&A sessions.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM14 (841)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### Committing to change - what do students want to improve after a peer teaching course with cases from general practice?

#### AUTHOR(S):

- Julia Freytag, Charité Universitaetsmedizin Berlin, Germany (Presenter)
- Susanne Lueck, Charité Universitaetsmedizin Berlin, Germany
- Maike Buchmann, Charité Universitaetsmedizin Berlin, Germany
- Fabian Stroben, Charité Universitaetsmedizin Berlin, Germany
- Peter Eberz, Charité Universitaetsmedizin Berlin, Germany
- Tanja Hitzblech, Charité Universitaetsmedizin Berlin, Germany

#### ABSTRACT

**Background:** Peer-assisted learning is widely used in medical education and represents an important opportunity for students to practice different skills. At Charité Berlin a peer teaching course about general practice cases allows students to train their skills in history-taking and physical examination. To study the effect of this course on the students, we use the concept of commitment to change (C2C). Since the training of communication skills is one of the main goals of the course, we are especially interested in commitments regarding this area.

**Summary of Work:** In this course participants have the opportunity to talk to, examine and diagnose a simulated patient (SP). Students receive feedback on their communication skills from the SP and on their technical skills and their treatment plan from the tutor and their peers. Afterwards the participants name up to three aspects of their behavior they commit to change and rank their level of commitment (LOC) to integrate these changes (scale: 1-5, very weak to very strong). These commitments are classified into different categories, using the CanMEDs framework. After 6 weeks, the participants are asked if they had succeeded in implementing the changes.

**Summary of Results:** 44 students (16 courses) agreed to take part in the study and came up with a total of 99 commitments. 24 of those C2Cs cover medical knowledge or examination skills and reflect the CanMEDs role of the 'medical expert'. The remaining commitments included different aspects of communication skills (CanMEDs 'communicator'), reflecting mostly key competencies 1 ('professional therapeutic relationship'; 29 C2Cs, mean(LOC)=4) and 2 ('elicit and synthesize information', 26 C2C, mean(LOC)=3.9). 13 students (29.5%) answered the follow-up, claiming they could integrate the changes partly.

**Discussion and Conclusions:** After participating in the course, students identified areas for improvement regarding communication skills, medical knowledge and technical skills, with a clear focus on different communication skills. These results are in line with the course's learning objectives.

**Take-home Messages:** Participants of the course mainly committed to changes regarding their communication behavior. C2Cs represent a helpful way to investigate a peer-led training's effects on its participants and their accordance with the learning objectives.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM15 (2741)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

**To what extent are medical students' motivations to seek teaching experience impacted by their recognition that their future role as a doctor will involve teaching?**

#### AUTHOR(S):

- Henry Mitchell, Queen Mary University of London, UK (Presenter)
- Siobhan Cooke, Queen Mary University of London, UK
- Daisy Campion, Queen Mary University of London, UK

#### ABSTRACT

**Background:** The proficiency of a doctors teaching skills impacts the quality of teaching they deliver. Exposure to teaching experience plays a strong role in the development of novice teachers yet the extent to which medical students engage with extracurricular teaching opportunities is varied. This project will explore students perceived importance of their preparation for their role as a teacher and their motivations for seeking out teaching experience. Research has explored clinicians' motivations to teach but overlooked medical students' motivations. By uncovering medical students' motivations to teach it may help to encourage more students to develop as teachers. This in turn would improve the quality of teaching students receive and facilitate an increase in the size of the medical education faculty to meet the demands of the UKs growing medical student population.

**Summary of Work:** The research question was answered through semi-structured qualitative interviews of twelve medical students who have undertaken some form of teaching experience, either through peer group teaching or through an intercalated degree in medical education. The topics explored involved discussion of reasons for undertaking teaching experience and beliefs surrounding the role of a doctor as a teacher. Interview data was analysed using thematic analysis.

**Summary of Results:** Results of this research project may show a variation in medical students' motivations to pursue teaching experience, including a recognition of the importance of the role of a doctor as a teacher and a need to prepare for that role. However, it is anticipated that other motivations will be uncovered such as a desire to benefit the student community or to improve the strength of students' CVs.

**Discussion and Conclusions:** The research may reveal that not all medical students undertake teaching experience as a way to prepare themselves for becoming a teacher. This understanding can be used to encourage more students to pursue teaching by doing more to help them understand the roles importance and that teaching experience offers a way of preparing them for that role.

**Take-home Messages:** By exploring medical students' motivations to teach and awareness of their need to develop teaching skills there is scope to encourage more students to prepare themselves for their role as a teacher.

## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM16 (133)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:**

### Starting Early: Can a peer teacher training program (PTT) help to develop medical students' teaching and feedback skills?

#### AUTHOR(S):

- Chiraag Thakrar Karia, University Hospitals of Leicester NHS Trust, UK (Presenter)
- Andrew Hughes, University Hospitals of Leicester NHS Trust, UK
- Judith West, University of Leicester Medical School, UK
- Joanne Kirtley, University Hospitals of Leicester NHS Trust, UK
- Annette Burgess, University of Sydney, Australia
- Sue Carr, University Hospitals of Leicester NHS Trust, UK

#### ABSTRACT

**Background:** Skills in peer teaching, assessment and feedback are increasingly documented as important graduate attributes for healthcare students in the UK. In Leicester, the General Medical Council (GMC) National Trainee Survey and the National Student Survey have highlighted the need to improve feedback given to medical students and doctors in training. This study sought to evaluate the implementation of a new blended learning Peer Teacher Training program, designed to support the development of teaching and feedback skills.

**Summary of Work:** The PTT program for healthcare students was developed by the University of Sydney in 2016, and run for University of Leicester undergraduate medical students in May 2017 and November 2018. The program was evaluated using a combination of qualitative and quantitative data. Students were invited to complete 18 pre-course questions and 25 post-course questions (using self-rated Likert scale (0 (low) - 10 (high)), and open-ended questions) on their understanding and confidence in teaching. Semi-structured focus groups were run after each course to gain insight on students' perceptions. Quantitative data was analysed using descriptive statistics and qualitative data was analysed using thematic analysis.

**Summary of Results:** Twenty (10 male) fourth-year medical students, median age 23 (range 21-30) years, self-selected to participate in the PTT program across the two dates. Seventy percent of students had previous informal training in teaching and 90% stated previous teaching experience. All participants completed the pre- and post-course questionnaires. Nine (4 male) students attended the focus groups. Students reported 37% increased confidence when planning a learning activity, 25% improvement in their ability to provide structured feedback and 36% improvement in ability to apply basic educational principles. Students with less experience self-reported higher levels of improvement.

**Discussion and Conclusions:** The program was an effective way for medical students to gain competence and confidence in teaching and feedback. Students welcomed the idea of involving other healthcare students and we plan to extend the course to include different healthcare roles.

**Take-home Messages:** The PTT program provides an early, modular approach for medical students to gain confidence in supervision, teaching and mentoring as required in the GMC's good medical practice.



## #10MM Posters - Students: Engagement/Peer Assisted Learning/Student as teacher

### 10MM17 (3277)

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Session:** 0830-1015

**Location of Presentation:** Hall/Foyer F, Level 0

### A case study of higher education student volunteer mentors within the charity SHINE Mentoring

#### AUTHOR(S):

- Sonia Akrimi, Brighton and Sussex Medical School, UK (Presenter)
- Elizabeth Anderson, King's College London, UK

#### ABSTRACT

**Background:** The UK General Medical Council (GMC) highlights the importance of professional skills for graduate doctors including good communication, collaborative practice, and leadership, but limited capacity exists in undergraduate curricula for training in these skills. Extra-curricular activities (ECAs) offer experiences outside the curriculum which may develop these skills, but the benefits are under-studied. SHINE Mentoring, a charity supporting students mentoring schoolchildren, is popular with medical students. This study explored the experience of students in SHINE, particularly whether ECAs complement undergraduate training.

**Summary of Work:** We used a case study design to explore in-depth the experience of students in SHINE. All student volunteers from across degree programmes were invited to participate, enabling insight into interdisciplinary learning. Data were collected through 7 recorded group interviews (2-5 students in each group, totalling 18) and observation of 1 student-led team review meeting (5 students), providing data about their experiences unmediated by researchers. Of 23 participants, 9 studied medicine, 5 other health-degrees. Data were coded concurrently with data collection and themes identified inductively.

**Summary of Results:** The context of this study is a cross-disciplinary ECA and results are reported for all students even though primarily focussed on skills needed for graduate doctors. Three themes emerged: 1) Personal development. Students developed new social networks. They valued working with students from other degree programmes, and learned about social challenges among mentored children. 2) Formal learning. Students identified links to degree-learning, particularly clinical students who highlighted experience working with children and explaining concepts when communication was challenging. 3) Learning for the future. Students gained workplace skills including leadership, multidisciplinary teamwork, and personal organisation. Students agreed that professional practice was expected of them as a mentor and project leader, including reflection, which related to professional practices required in employment.

**Discussion and Conclusions:** Students believed ECAs supported learning, personal and professional development regardless of degree programme. Multiple links existed between medical students' experiences and outcomes required of graduating doctors. Experiences gained from group-learning were identified, linking to GMC outcomes regarding collaborative learning and multi-disciplinary team-working.

**Take-home Messages:** This study provides new insight into specific contributions ECAs can make to undergraduate training, particularly development of important non-technical skills required of a graduate doctor.

## #11A PechaKucha™ Presentations

**Date of Presentations:** Wednesday, 28 August 2019

**Time of Presentations:** 1045-1135

**Location of Presentations:** Hall A/C, Level 2

- **Topic 1:** The crossroads of residency: The present tough decisions of a young doctor - Agostinho Sousa (*European Junior Doctors*)
- **Topic 2:** The values we teach - Teodor Blidaru (*IFMSA Liaison Officer to Student Organizations (LOSO) and a medical student at the Carol Davila University of Medicine and Pharmacy, Bucharest*)
- **Topic 3:** Health literacy and medical students - Beatriz Atienza Carbonell (*Medical Education Director, European Medical Students Association, Spain*)
- **Topic 4:** Creating the Future Workforce - Jennene Greenhill (*Flinders Rural Health South Australia, Flinders University College of Medicine and Public Health, Australia*)
- **Topic 5:** These Ideas Must Die: The Zombies of MedEd - Jason Frank (*Royal College of Physicians and Surgeons of Canada*)
- **Topic 6:** The Thinking Sidecar: Five Thoughts on Machine Learning, Medicine, and Future Physicians - Ruben R. Puentedura (*Hippasus, USA*)



## #11B Plenary 4

**Date of Presentation:** Wednesday, 28 August 2019

**Time of Presentation:** 1135-1220

**Location of Presentation:** Hall A/C, Level 2

### ICAP: How to Promote Deeper Learning by Engaging Students Constructively and Co-constructively

**Micheline Chi (Arizona State University, USA)**

**Summary:** ICAP is a theory of active learning that differentiates students' engagement based on their overt behaviors and the products they generate. ICAP postulates that Interactive engagement, demonstrated by co-constructive collaborative behaviors, is superior for learning than Constructive engagement, indicated by generative behaviors. Both kinds of engagement exceed the benefits of Active or Passive engagement, marked by manipulative and attentive behaviors, respectively. ICAP's predictions are supported by numerous studies in the literature. ICAP can also be used as a tool to dictate how learning activities should be designed, including how instructional videos should be created to maximize student learning.

**Biography:** Micheline (Micki) Chi is Foundation Professor and Regents' Professor at Arizona State University (ASU), and the Dorothy Bray Endowed Professor in the Mary Lou Fulton Teachers College at ASU. A cognitive and learning science researcher, Dr. Chi's Learning and Cognition Lab carries out three lines of funded research on how students learn. Dr. Chi has published widely and her work has been cited well over 50,000 times. She received the Distinguished Contributions to Research in Education Award from the American Educational Research Association in 2016, and the prestigious David Rumelhart Prize from the Cognitive Science Society in 2018.

