



Faculty of Medicine

fourth annual
MEDICAL
EDUCATION
SCHOLARSHIP
FORUM

June 6, 2017

Medical Education Centre
Main Atrium, 1st Floor

PROGRAM

MESSAGE FROM THE DEAN



Welcome to the 4th annual Medical Education Scholarship Forum. Medical education scholarship is a growing and exciting field locally, nationally and internationally. Medical education scholarship includes numerous aspects of medical education such as the development of innovative curricula, new ways of assessment, program evaluation, and research on issues that matter to medical education. The Faculty of Medicine at Memorial University of Newfoundland is a Canadian leader in various aspects of medical education scholarship.

This forum has been organized by our Medical Education Scholarship Centre (MESc) which was established 8 years ago. MESc has fostered the development of medical education scholarship in the Faculty of Medicine. It provides the opportunity for learners, staff and faculty to come together to discuss, create and develop various aspects of medical education scholarship.

This forum allows individuals the opportunity to present their medical education scholarship and start conversations on how to improve and advance medical education scholarship. Our faculty of medicine benefits from the innovative, creative medical education scholarship as it informs our undergraduate, postgraduate and graduate education which ultimately allows us to graduate exceptional physicians and health care researchers which in turn will benefit the health of the people of Newfoundland and Labrador and beyond.

Enjoy the medical education scholarship forum and embrace the opportunities to further the field of medical education.

Best wishes

A handwritten signature in black ink that reads "Margaret Steele". The signature is written in a cursive, flowing style.

Dr. Margaret Steele, MD, FRCPC, M.Ed, DF CPA, CCPE
Dean of Medicine
Professor of Psychiatry

THE MEDICAL EDUCATION SCHOLARSHIP CENTRE



The Medical Education Scholarship Centre (MESCC) is a dedicated support unit for medical education practice and scholarship. Its purpose is to foster reflective practice, research, and development across the continuum of medical education. The centre works with faculty, residents, students, and staff to advance educational scholarship in the Faculty of Medicine. It is staffed with individuals who possess expertise in the following areas of educational scholarship: research, program evaluation, teaching and learning development, and student assessment.

The centre continues to advance educational scholarship by working with members of the Faculty of Medicine to make improvements to the undergraduate and postgraduate medical education programs. With support from the centre, faculty and professional staff have presented their work in educational scholarship at local, national, and international conferences.

By working with individuals committed to high-quality education, the centre is not only facilitating excellence in teaching and learning in the Faculty of Medicine but is also fostering a culture of educational scholarship.

Vernon Curran

Dr. Vernon Curran, PhD
Associate Dean of Educational Development
Professor of Medicine
Office of Professional Development

PLENARY SPEAKER



Lyle R. Wetsch MBA, MSc. Mgmt
Associate Professor of Marketing
Faculty of Business Administration
Memorial University of Newfoundland

Mr. Wetsch is an Associate Professor of Marketing, Faculty of Business Administration, Memorial University of Newfoundland with over 200 presentations and publications in the past 13 years. Through the Gardiner Centre at the Faculty of Business Administration he has designed and offers training through the Digital & Social Media Program.

Academic Recognition:

- Recipient of 2016 Society for Marketing Advances (SMA) Distinguished Teaching Award (first Canadian to receive award)
- Recipient of 2014 Memorial University President's Award for Distinguished Teaching
- Recipient of the 2013 Hormel Master Teacher Award presented by the Marketing Management Association (first Canadian to receive award)

THE GROWING WORLD OF DIGITAL AND SOCIAL MEDIA IN MEDICAL EDUCATION

LEARNING OBJECTIVES: Participants will be able to:

1. Outline the evolution of digital and social media technologies and the impact and changes that they are having on medical education.
2. Discuss the importance of today's medical community and medical students to be digitally savvy and understand the importance of managing the online brand.
3. Explain how digital and social media tools can enhance and add value to the education process of the medical community and how they can be implemented effectively

DESCRIPTION: Digital and social media tools and platforms are where people are spending the majority of their time today. They are essential for communication, knowledge gathering, knowledge dissemination as well as education and collaboration. But, as with many tools, if they are used incorrectly, there are risks that can have long lasting effect. Ignoring or avoiding digital and social media tools also can have significant negative impact and long-term risks as well. This presentation will provide an overview of the current state of digital and social media technologies in general (and in medical education specifically), discussing the benefits, risks, opportunities and challenges moving forward.

4th Medical Education Scholarship Forum
 June 6, 2017
 Medical Education Centre, Room 1M101
AGENDA

8:00 - 8:30	<i>Registration and Coffee</i>	
8:30 - 9:00	Welcome, Dr. Margaret Steele, Dean of Medicine	
9:00 - 10:00	The Growing World of Digital and Social Media in Medical Education	<i>Certified/Accredited</i>
	Opening Speaker: Mr. Lyle Wetsch	
	Learning Objectives: Upon completion of this session, participants will be able to:	
	<ol style="list-style-type: none"> 1. Outline the evolution of digital and social media technologies and the impact and changes that they are having on medical education. 2. Discuss the importance of today's medical community and medical students to be digitally savvy and understand the importance of managing the online brand. 3. Explain how digital and social media tools can enhance and add value to the education process of the medical community and how they can be implemented effectively. 	
10:00 - 10:45	10-Minute Presentations Moderator: Heidi Coombs-Thorne	
10:45 - 11:00	<i>Break</i>	
11:00 - 12:00	Facilitated Posters Moderators: Steve Shorlin, Robert Glynn, Steve Darcy	
12:00 - 1:00	10-Minute Presentations Moderator: Diana Deacon	
1:00 - 1:45	<i>Lunch</i> Announcement of the Meridith Marks Mentorship Award	
1:45 - 3:00	CONCURRENT WORKSHOPS	
	Playing for Keeps: How to use simulation for summative assessment and determination of competence	<i>Certified/Accredited</i>
	Presenter: Dr. Noel O'Regan	Location: 1M101
	Learning Objectives: Upon completion of this workshop, participants will be able to:	
	<ol style="list-style-type: none"> 1. Identify appropriate content for summative assessment using simulation. 2. Develop scoring rubrics and assessment tools for summative assessment using simulation. 3. Transition from a 'safe environment' to an exam using simulation. 4. Effectively debrief a summative assessment using simulation. 5. Identify pitfalls and landmines in summative assessment using simulation 	

1:45 - 3:00	CONCURRENT WORKSHOPS (Cont'd)	
Student Voices Matter: A Model for Engaging Students in Curriculum Planning Curriculum Planning		<i>Certified/Accredited</i>
Presenter: Dr. Olga Heath and others		Location 2M240
Learning Objectives: Upon completion of this workshop, participants will be able to:		
<ol style="list-style-type: none"> 1. Describe the undergraduate IPE programming for health/social professional schools at Memorial and how student feedback has been incorporated. 2. Explain the andragogy behind the new model of including students in curriculum development and revision. 3. Describe how the Interprofessional Student Advisory Committee was formed, the current makeup of the committee and its Terms of Reference. 4. Summarize the student experience on the committee, how it differs by profession and the student vision for how they can contribute in the future. 5. Explore the potential for this model of student contribution to curriculum development and revision for health and social professional schools. 		
Using student evaluation results to improve teaching – A practical guide to interpreting teaching evaluation results and using them to improve your teaching		<i>Certified/Accredited</i>
Presenter: Ms. Gerona McGrath		Location 1M102
Learning Objectives: Upon completion of this workshop, participants will be able to:		
<ol style="list-style-type: none"> 1. Interpret their teaching evaluation results. 2. Describe the uses and limitations of student evaluations. 3. Utilize teaching evaluations to inform their teaching and course planning 		
3:00 - 3:15	<i>Break</i>	
3:15 - 4:45	10-Minute Presentations Moderator: Gerona McGrath	
4:45	Closing Remarks, Dr. Vernon Curran <ul style="list-style-type: none"> • Best Oral Presentation • Best Poster Presentation 	

Accreditation

- This Group-Learning program meets the certification criteria of the College of Family Physicians of Canada and has been certified by the Office of Professional Development, Memorial University of Newfoundland for up to 2.25 Mainpro+ credits.
- This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada, and approved by the Office of Professional Development, Faculty of Medicine, Memorial University of Newfoundland. You may claim a maximum of 2.25 hours

CFPC Accreditation Reviewer Pamela Snow, MD, CCFP, FCFP Associate Professor of Family Medicine Director, Academic Development - Family Physicians Office of Professional Development Faculty of Medicine, MUN	RCPSC Accreditation Reviewer Jennifer R. Leonard, MD, FRCPC Assistant Professor of Medicine (Gastroenterology) Director, Academic Development - Specialists Office of Professional Development Faculty of Medicine, MUN
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Disclosure

Speakers and planners will be asked to disclose, to the audience, any real or apparent conflict(s) of interest that may have a direct bearing on the subject matter of this program.

Faculty (Certified/Accredited sessions only)

Gerona McGrath, MBA, M.Ed	Education Specialist - Program Evaluation	Faculty of Medicine, MUN
Noel O'Regan, M.D., FRCPC	Associate Professor of Anesthesia	Faculty of Medicine, MUN
Olga Heath, Ph.D., R. Psych	Associate Professor of Community Health & Humanities	Faculty of Medicine, MUN
Lyle Wetsch, MBA, MSc. Mgmt	Associate Professor of Marketing	Faculty of Business Administration, MUN

Planning Committee

- Heidi Coombs-Thorne, PhD
Research Assistant II
Medical Education Scholarship Centre
Faculty of Medicine, MUN
- Vernon Curran, PhD
Associate Dean of Educational Development
Professor of Medicine
Office of Professional Development
Faculty of Medicine, MUN
- Stephen Darcy, MD,CCFP, FCFP
Assistant Professor
Discipline of Family Medicine, MUN
- Diana Deacon, M.Ad.Ed.
Education Specialist - Student Assessment
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- Anne Drover, MD, MEd, FRCPC
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Faculty of Medicine, Memorial University, St. John's, NL
- Bridget Hynes
Academic Program Administrator
Medical Education Scholarship Centre
Faculty of Medicine, MUN
- Lorna Coles
Secretary
Medical Education Scholarship Centre
Faculty of Medicine, MUN

ORAL PRESENTATIONS (10 minute format)

Moderator: Heidi Coombs-Thorne

Time: 10:00 - 10:45 am

TIME	PRESENTER(S)	TITLE
10:00	James Rourke	From Pipelines to Pathways: The Memorial experience in educating doctors for rural generalist practice
10:15	Michael Bartellas	Three-Dimensional Printing of a Hemorrhagic Cervical Cancer Model for Postgraduate Gynecological Training
10:30	Casey Thorburn & Omar Abdel-Razek	Three-dimensional printing for the prediction of peri-operative and post-procedural complications in transcatheter aortic valve implantation

FACILITATED POSTER SESSIONS

Moderator: Steve Shorlin

Time: 11:00 am - 12:00 noon

PRESENTER	POSTER	TITLE
Liam Fardy	P-1	Medical Learners' Perceptions of Video-Assisted Self-Reflection as a Component of Simulation Debriefing
Megan Pollard	P-2	SPIRALS: A New Cognitive Approach to Clinical Reasoning in the Emergency Department
Stephanie Smith	P-3	A needs assessment to guide the development of multidisciplinary simulation-based modules relevant to emergency department nurses in NL
Cody Dunne	P-4	Development and ongoing evaluation of procedural skills instruction sessions for core and low-frequency high-stakes EM procedures
Cody Dunne	P-5	A procedural skills training needs assessment of rural EM physicians in NL and perceptions on the use of remote tele-simulation to bridge the gap
Rifat Biswas	P-6	EEG-based classification of "skilled" and "unskilled" conditions as naïve participants practice a cognitive-motor task in a life boat simulator
Bret Kenny	P-7	EEG Correlates of Learning to Navigate a Novel Virtual Environment

FACILITATED POSTER SESSIONS

Moderator: Robert Glynn

Time: 11:00 am - 12:00 noon

PRESENTER	POSTER	TITLE
Dana Ryan	P-8	A retrospective cohort study of Canadians who studied medicine abroad and other international medical graduates' realization of entry-to-practice milestones
Dana Ryan	P-9	Post-graduate medical education examination outcomes and work locations of IMG family medicine residents in Canada
Dana Ryan	P-10	Credentialing and retention of visa trainees in post-graduate medical education programs in Canada
Wanda Parsons	P-11	A Pilot Study: Situational Judgement Test for Selection of Undergraduate Medical Students at Memorial University of Newfoundland
Sarah Simms	P-12	Online resources in a global health curriculum
Courtney Abbott	P-13	Country Mouse, City Mouse II: Examining Communication Barriers between Rural Physicians and Urban Consultants in Newfoundland and Labrador
Adam Reid	P-14	Perspective: Interprofessional Education: Skills Training (IPST) team projects, processes, and reactions

Moderator: Steve Darcy

Time: 11:00 am - 12:00 noon

PRESENTER	POSTER	TITLE
Victor Maddalena	P-15	The application of Quality Improvement principles to undergraduate medical education
Heidi Coombs-Thorne	P-16	The Introduction of Entrustable Professional Activities (EPAs) into the Undergraduate Medical Education Curriculum at Memorial University
Diana Deacon	P-17	An Evaluation of the Characteristics of a Clinic Card to Assess Progression in Entrustable Professional Activities (EPAs) in Undergraduate Medical Education: A Case Study of the Surgery Rotation
Gerona McGrath	P-18	Teacher Effectiveness Evaluation: A Cross-Sectional Study on the Association between the Quantitative Scores and Qualitative Comments
Vernon Curran	P-19	Evaluation of the Collaborator Objective Structured Clinical Examination (COSCE)
Joy Clements	P-20	Effect of a handover tool on resident and staff attitudes toward patient handover in a general Paediatrics inpatient unit
Lauren Rickert	P-21	Identifying individuals at risk for ARVC caused by TMEM43 p.S358L: A genetics educational tool for Primary Care Physicians

ORAL PRESENTATIONS (10 minute format)

Moderator: Diana Deacon

Time: 12:00 noon - 1:00 pm

TIME	PRESENTER	TITLE
12:00	Noel O'Regan & Michaela Burke	Insitu simulation of an MH Crisis in an ECT Treatment Unit: Improving patient safety through education and identifying latent errors
12:15	Tanis Adey / Taryn Hearn	Can a change management approach enhance the accreditation process?
12:30	Adam Reid	Evaluation results from three student cohorts in the Interprofessional Education: Skills Training (IPST) program
12:45	Chelsey McPhee / Kristin Harris-Walsh	Developing a Comprehensive Interprofessional Education (IPE) Curriculum for Health and Social Care in Newfoundland and Labrador: The "Provincial IPE Project" Update

WORKSHOPS

Time: 1:45 - 3:00 pm

TITLE	PRESENTER	ROOM
Playing for Keeps: How to use simulation for summative assessment and determination of competence.	Noel O'Regan	1M101
Student Voices Matter: A Model for Engaging Students in Curriculum Planning	Olga Heath and others	2M240
Using student evaluation results to improve teaching – A practical guide to interpreting teaching evaluation results and using them to improve your teaching	Gerona McGrath	1M102

ORAL PRESENTATIONS (10 minute format)

Moderator: Gerona McGrath

Time: 3:15 - 4:45 pm

TIME	PRESENTER	TITLE
3:15	Emily Pye	Writing in Medical Education: A Student Perspective
3:30	Natalie Beausoleil	Integrating the arts and literature in the undergraduate medical education at Memorial University: reflection on accomplishments, challenges and possibilities
3:45	Sherry Jin	Evaluation of In-Training Evaluation Reports (ITERs) in Anesthesia Education
4:00	Lisa Fleet	Continuing Professional Development (CPD) and Self-Directed Learning (SDL) in a Digital Age: Implications for Health Professionals and CPD Providers
4:15	Thomas Heeley / Sabnam Asghari	Developing a Research Education Curriculum for Rural Doctors: Trials, Teachings and Testaments
4:30	Lisa Fleet	An Exploratory Study of Regional and Community Best Practices for Facilitating Physician Work/Life Balance in Newfoundland and Labrador (NL)

FROM PIPELINES TO PATHWAYS: THE MEMORIAL EXPERIENCE IN EDUCATING DOCTORS FOR RURAL GENERALIST PRACTICE

James Rourke, Shabnam Asghari, *Discipline of Family Medicine*; Oliver Hurley, *Centre for Rural Health Studies*; Mohamed Ravalia, Michael Jong, Wanda Parsons, Norah Duggan, Katherine Stringer, Danielle O'Keefe, Scott Moffatt, Wendy Graham, *Discipline of Family Medicine*; Carolyn Sturge Sparkes, *Division of Community Health and Humanities*; Donald McKay, *Division of Biomedical Sciences*; Asoka Samarasena, *Discipline of Anesthesia*; Janelle Hippe, *Health Research Unit*; Kristen Harris-Walsh, *Centre for Collaborative Health Professional Education*

ABSTRACT: Oral Presentation

- Purpose:** The aim of this project is to describe Memorial's "pathways to rural practice" approach which is comprised of a targeted pre-admissions process, rural focused medical school experiences/postgraduate (PG) training, as well as additional post PG training support for physicians practicing in rural and remote areas. The pathways approach has allowed Memorial to contribute toward the province's rural generalist workforce which is a primary component of its social accountability mandate.
- Methods:** There are four components included in Memorial's "pathways to rural practice" approach: (1) pre-admissions process (aboriginal initiative, MedQuest, geographic/minority selection) (2) MD placements (rural based experiences) (3) PG vocational residency training (Longer periods of rural training, deeper community integration) (4) after PG vocational residency training (opportunities for professional and faculty development). Memorial's pathways approach was assessed using data from *Learners and Locations*; a longitudinal study which collects information on Memorial's medical students.
- Results:** Out of 617 Memorial medical students (2011-2019), 90% completed their Year 1 Community Health placement weeks in a rural town or rural community. For Year 2 placements for the same graduating classes, 73% of placement weeks were spent in a rural community or rural town. For the graduating classes of 2011 to 2018 (N = 537), 89% completed their Year 3 Family Medicine placement weeks in a rural community and 8% completed them in a rural town. All Memorial MD graduates who graduated between 2011 and 2013 who also went on to complete Memorial's Family Medicine vocational training residencies (N=49) completed some rural training. The same 49 Family medicine vocational training residents spent an average of 52 weeks (55%) out of a total average of 95 weeks in rural areas).
- Conclusion:** The pathways approach has allowed Memorial to produce rural generalists for NL and Canada and under the right circumstances could be used in other demographic/geographic settings. In order for the province of NL and Canada to improve the quality and access of healthcare in rural and remote areas, collaboration at all levels of the healthcare system (e.g. government, health authority, community, and physicians) on an ongoing basis will be required.
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THREE-DIMENSIONAL PRINTING OF A HEMORRHAGIC CERVICAL CANCER MODEL FOR POSTGRADUATE GYNECOLOGICAL TRAINING

Michael Bartellas, Stephen Ryan, *MD Student*; Gregory Doucet, *Engineering Work-Term Student*,
Deanna Murphy, *Discipline of Obstetrics and Gynecology*; Jacqueline Turner, *Clinical Learning and Simulation Centre*

ABSTRACT: Oral Presentation

- Purpose:** To design and manufacture a realistic, low-cost hemorrhagic cervical cancer model with 3D Printing to enhance gynecological postgraduate medical training.
- Methods:** Computer-assisted design (CAD) software was the platform of choice to create and refine the cervical model. Once the prototype was finalized, another software allowed for the addition of a neoplastic mass, which included openings for bleeding from the neoplasm and cervical os. 3D printing was done using two desktop printers and three different materials. An emergency medicine simulation case was presented to obstetrics and gynecology residents who were at varying stages of their training. The scenario included history taking and physical examination of a standardized patient. This was a hybrid simulation; a synthetic pelvic task trainer that allowed the placement of the cervical model was connected to the standardized patient. The task trainer was placed under a drape and appeared to extend from the standardized patient's body. At various points in the simulation, the standardized patient controlled the cervical bleeding through a peripheral venous line. Feedback forms were completed, and the models were discussed and evaluated with staff.
- Results:** A final cervical model was created and successfully printed. Overall, the models were reported to be similar to a real cervix. The models bled well. Most models were not sutured during the scenarios, but overall, the value of the printed cervical models was reported to be high.
- Conclusion:** 3D-printed cervical models are an economical and anatomically accurate option for simulation training and other educational purposes. Feedback from this study has highlighted areas that can be improved upon to enhance this educational tool.

THREE-DIMENSIONAL PRINTING FOR THE PREDICTION OF PERI-OPERATIVE AND POST-PROCEDURAL COMPLICATIONS IN TRANSCATHETER AORTIC VALVE IMPLANTATION

Casey Thorburn, *MD Student*; Omar Abdel-Razek, *Discipline of Internal Medicine*;
Corey Adams, *Discipline of Cardiac Surgery*

ABSTRACT: Oral Presentation

- Purpose:** To assess Three-Dimensional(3D) printed models as a modality for improving patient outcomes in transcatheter aortic valve implantation (TAVI). To assess use of 3-D printed models for continuing education in the development of innovative surgical planning techniques. Aortic Stenosis (AS) is the most common cause of valvular dysfunction in the Western world. TAVI has been identified as the intervention of choice in certain patients. Improved pre-procedure visualization is likely to improve patient outcomes.
- Methods:** Data will be extracted from the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH) database, which is used to prospectively collect data on patients undergoing diagnostic cardiac catheterization, percutaneous coronary intervention, and/or cardiovascular surgery at the Health Sciences Centre (HSC) in St. John's, NL. Five patients with completed TAVI procedures in 2016 will be randomly selected as the study population. The pre-TAVI cardiac gated CT for these patients will be de-identified and printed in 3D. The 3D printing will be actual sizing, printing the aortic root (Ascending aorta, sinotubular junction, sinus of valsalva, aortic valve, and left ventricular outflow tract). In addition, the peripheral vasculature consisting distal aorta, common iliac, common femoral and bifurcation into the superficial and profunda will be printed. These 3D models will then be used to predict peri-operative and post-procedural complications of TAVI in each patient, and the predicted results will be compared with actual results from these patients.
- Results:** Our predicted results are that 3D printed models will be able to accurately predict peri-operative and post-operative complications of TAVI such as paravalvular leak, sizing predictions of valve, structural barriers to implantation of prosthetic valve, correct annulus shape of prosthetic valve as well as post-operative vascular events.
- Conclusion:** 3D printed models have been used for procedural planning in congenital heart disease and open valve surgeries through the ability to replicate unique anatomical anomalies in patients, allowing for visualization and improved surgical planning. In addition to improved visualization of vascular and valvular anatomy, 3D printed models allow improved ability to predict procedural complications.
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MEDICAL LEARNERS' PERCEPTIONS OF VIDEO-ASSISTED SELF-REFLECTION AS A COMPONENT OF SIMULATION DEBRIEFING

Liam Fardy, Shahzad Waheed, Roger Chafe, Jackie Williams-Connoll, *Discipline of Pediatrics*;
Adam Dubrowski, *Discipline of Emergency Medicine*

ABSTRACT: Poster (P-1)

- Purpose:** Simulation is increasingly an important tool within medical education. Debriefing, which is a form of post-simulation feedback is a critical component of the learning process. It is unclear however how to make debriefing most optimal. It is common within medical education for there to be a face-to-face debrief with an expert facilitator to occur directly after a simulation session. We explored whether learners would further benefit from additional self-reflection while viewing a video of their own performance in the weeks following their simulation session. The objective of this study was to assess resident physicians' opinions of a debriefing technique involving additional video-assisted self-reflection.
- Methods:** Twenty pediatric residents were randomly divided into a control and experimental group. All participants completed a simulation scenario on pediatric resuscitations that was followed either by a standardized face-to-face debrief (control) or a standardized face-to-face debrief and additional access to an online video of their performance linked with a structured set of probing questions to aid in self-reflection (experimental). All residents were then surveyed about the role of video and self-reflection in debriefing, and their perceived ability to deal with a resuscitation case like the one reviewed in the simulation during real clinical situations.
- Results:** Both groups had positive responses regarding the use of simulation in medical education in general and their perceived preparation for managing resuscitation cases in real clinical scenarios. Learners in the experimental group more strongly agreed that reviewing a video of their performance as part of the debriefing process would enhance their learning experience and aid in self-reflection. They were also more likely to indicate that they would like more training on cognitive self-reflective techniques than those in the control group.
- Conclusion:** Learners viewed the use of video-assisted self-reflection as a useful tool for debriefing whether they were exposed to this method or not. Those who were exposed to video-assisted self-reflection felt more positively about it and were interested in further training in self-reflection. This study suggests that video-assisted self-reflection should be further explored as a way for improving the experiences of medical learners' during the debriefing of simulation sessions.

SPIRALS: A NEW COGNITIVE APPROACH TO CLINICAL REASONING IN THE EMERGENCY DEPARTMENT

Tia Renouf, Megan Pollard, *Discipline of Emergency Medicine*; Lisa Fleet, *Office of Professional Development*;
Courtney Abbot, *Discipline of Emergency Medicine*; Desmond Whalen, *MD Student*;
Adam Dubrowski, *Discipline of Emergency Medicine*

ABSTRACT: Poster (P-2)

- Purpose:** The emergency department (ED) is a unique learning environment. Pace, cognitive load and scant clinical information mandate critical decisions with immediate consequences. Patient care constantly evolves demanding proper allocation of healthcare resources, nimble course correction and disposition. We do not prepare undergraduates for this high-paced, dynamic environment. They are taught traditional exhaustive presentations, “the laundry list”, believed to be more appropriate in clinic settings. We developed a new cognitive approach: a recursive acronym called SPIRALS (Sick, Pain, Investigate, Resuscitate, Assess Again, LeaveS ED. The final “S” spirals back to the first “S”, representing our proposed ED cognitive reasoning process) potentially more appropriate in ED than currently used static mnemonics like RAPID or SNAPPS.
- Methods:** Naturalistic observation of ED physicians, making notes as they follow their patients from admission to discharge (or other disposition) to observe and describe potential SPIRALS behaviours. Resulting field notes were analyzed and a concept map was created to graphically display the researcher’s observations of the ED participants’ activities.
- Results:** ED observation field notes documenting behaviours of n=6 physicians. Thematic analysis of content analyzed and coded by two research team members. Preliminary analysis records observations of common physician behaviors: multiple simultaneous initial patient assessments, investigations, treatments, repeated patient follow-ups, course-corrections and eventual disposition. This analysis suggests SPIRALS behaviours exist. Physicians constantly re-evaluate patients and engage with colleagues to ensure high quality patient care.
- Conclusion:** ED physicians demonstrate SPIRALS behaviours, suggesting they use non-linear cognitive reasoning. This may benefit ED medical students and contribute to their leadership development. Subsequent phases of this study will explore the most effective method for teaching SPIRALS, and will assess the effectiveness of the SPIRALS teaching intervention. This pilot study suggests that a SPIRALS teaching intervention/mnemonic will provide clinical clerks with a framework for ED learning, increase their confidence, and help guide their patient interactions.

A NEEDS ASSESSMENT TO GUIDE THE DEVELOPMENT OF MULTIDISCIPLINARY SIMULATION-BASED MODULES RELEVANT TO EMERGENCY DEPARTMENT NURSES IN NL

S. Smith, M. Pollard, M. Parsons, *Discipline of Emergency Medicine*

ABSTRACT: Poster (P-3)

- Purpose:** Smooth functioning of multidisciplinary teams is crucial in the provision of optimal patient care within the emergency department. Physicians and nurses must have a collaborative approach and work efficiently to meet patient needs in this busy setting. Development and maintenance of a standard team approach to critical procedures and clinical encounters is helpful to ensure quality patient care. This is especially important for infrequent, high-risk procedures and clinical encounters. Simulation provides a safe environment where learning is enhanced through deliberate practice of procedural skills and management of high-risk clinical encounters. Multidisciplinary participation in simulation-based education may augment team cohesiveness and performance.
- Methods:** A web-based needs assessment survey was developed and distributed to rural and urban ED nurses to collect information on participant demographics, opinions about simulation-based instruction and perceptions on the value of the educational approach proposed in our project. Additional information is collected on previous experience and comfort related to specific procedures and clinical encounters within the ED.
- Results:** Results from the survey will be compiled and analyzed for themes. These themes will guide the creation of simulation-based modules relevant to nursing practice. Multidisciplinary modules relevant to the nursing roles, collaboration with physician colleagues and responsibilities on the selected topics will be developed. Procedural modules will address key information including indications, contraindications, complications and necessary equipment. Teaching on core clinical encounters will cover key features on presentation, diagnosis, and treatment. Modules will consist of pre-session online and print resource review followed by hands-on interactive sessions involving physicians and nursing colleagues to facilitate a common approach to core procedures and ED presentations.
- Conclusion:** We describe the outcomes of a needs assessment of ED nurses that will guide the development of multidisciplinary simulation-based modules covering core EM procedures and clinical encounters. Modules will be subject to ongoing feedback and modification to meet needs specific to the local practice environment.

DEVELOPMENT AND ONGOING EVALUATION OF PROCEDURAL SKILLS INSTRUCTION SESSIONS FOR CORE AND LOW-FREQUENCY HIGH-STAKES EM PROCEDURES

M. Parsons, Cody Dunne, P. Rogers, *Discipline of Emergency Medicine*

ABSTRACT: Poster (P-4)

- Purpose:** The traditional “see one, do one, teach one” approach to procedural skills training has fallen out of favor recently, with patient safety and minimizing adverse outcomes moving to the forefront. Simulation-based and competency-based medical education play key roles in this movement as they can expose learners to both common and low-frequency high-stakes procedures and ensure competence before encountering real patients. Learners get a low-risk setting to develop competency around required knowledge, skills and equipment.
- Methods:** Brief surveys were completed at the end of procedural skills training sessions held over the past 3 years. The sessions were developed to include 5 – 6 rotating small-group stations over a 4-hour time period. Skills included were determined by faculty, based on feedback from prior sessions and literature reviews around emergency procedural training. Some of the topics included chest tubes, airway intervention, lumbar punctures and trauma interventions. Pre-session learning was accomplished through online learning and brief written materials. Small group session learning allowed individuals to participate in hands-on mentor-guided training, with feedback being provided in real-time. The stations were supplemented with printed materials summarizing key learning points. To maximize learning, a variety of low-fidelity task trainers were used, and simulated patients were incorporated to enhance realism and demonstrate relevant anatomy. R3 EM residents often had opportunity to guide junior learners during the sessions.
- Results:** During these sessions, learners at different training levels received hands-on mentor-guided training of procedures relevant to emergency medicine practitioners. The surveys were created to assess learners’ perceptions of the session and their educational value. Learners evaluated the value of the sessions, the effectiveness of the instruction, and provided their thoughts on improvements for future sessions. Thirty-eight surveys were collected and will be analyzed for themes to determine areas of improvement for the future.
- Conclusion:** We describe feedback from learners on the use of mentor guided hands-on low-fidelity and hybrid simulation based procedural skills sessions. Feedback indicates learners enjoyed the sessions and found this to be an engaging and effective instruction modality.
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A PROCEDURAL SKILLS TRAINING NEEDS ASSESSMENT OF RURAL EM PHYSICIANS IN NL AND PERCEPTIONS ON THE USE OF REMOTE TELE-SIMULATION TO BRIDGE THE GAP

Cody. Dunne, M. Parsons, *Discipline of Emergency Medicine*

ABSTRACT: Poster (P-5)

- Purpose:** Regular clinical exposure to uncommon or high-risk procedures during training is often quite limited. Compounded with degradation of procedure specific skills and knowledge over time, later encounters are more challenging and have higher likelihood of error. A low-risk simulation-based environment to practice and review key information can be valuable to maintenance of a wide array of skills. The delivery of simulation-based training to trainees outside central academic centers can be costly and challenging with respect to time and resources. Effective delivery of expert instruction and guidance by a geographically separated mentor via tele-simulation could prove to be a valuable approach in this setting.
- Methods:** A web-based needs assessment targeting physicians in rural emergency departments (EDs) was developed. The survey was distributed via a contact list through the Newfoundland and Labrador Medical Association (NLMA). The survey collects information on demographics and opinions about simulation-based instruction. Participants are asked to rank their comfort performing a number of selected procedures, their desire to have further training and to make suggestions on refining the list of topics that modules should cover.
- Results:** The results of the survey will be compiled and undergo quantitative as well as thematic analysis. These results will be used to inform the development of a series of modules focused on core procedural skills relevant to the target audience. Modules designed to cover core information will include pre-session distribution of information such as relevant reading and audio-visual materials to cover key points. During mentor-guided instruction sessions, procedure-specific indications, contraindications, complications and equipment will be reviewed in the context of case-based scenarios. Challenges of delivering effective mentor guided tele-simulation will be addressed.
- Conclusion:** The provision of medical care in rural and remote settings can be particularly challenging when low-frequency high-stakes procedures must be performed. Delivery of simulation-based teaching facilitated by a geographically separated mentor using effective tele-simulation may help bridge gaps in knowledge and technical skills.

EEG-BASED CLASSIFICATION OF “SKILLED” AND “UNSKILLED” CONDITIONS AS NAÏVE PARTICIPANTS PRACTICE A COGNITIVE-MOTOR TASK IN A LIFE BOAT SIMULATOR

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ABSTRACT: Poster (P-6)

- Purpose:** Neural signals have the potential to provide information regarding a learner's task proficiency that performance measures alone cannot. The purpose of this study is to determine if neural signals obtained via electroencephalography (EEG) can be used to automatically classify different levels of task proficiency (e.g., unskilled, skilled) on a single-trial basis.
- Methods:** For this purpose, a virtual training environment that simulates a standard life boat will be used. Up to 15 naïve participants (i.e., no experience with driving boats in real or simulated environments) will complete several trials of a manoeuvring task while their neural activity is recorded via 64-channel EEG. Participants' performance for each trial will be scored according to a predefined rubric. This performance measure will be used to label trials as “skilled” or “unskilled”. Automatic feature selection algorithms will be employed to identify attributes of the neural signals that allow the best discrimination between these conditions, and linear and nonlinear supervised learning algorithms will be used to automatically classify them on a single-trial basis.
- Results:** Data collection and analysis are ongoing.
- Conclusion:** In general, this work will add to the body of knowledge regarding user-state classification in complex task scenarios, and may lead to the development of passive brain-computer interface technologies to enhance simulation-based training programs.
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EEG CORRELATES OF LEARNING TO NAVIGATE A NOVEL VIRTUAL ENVIRONMENT

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ABSTRACT: Poster (P-7)

Purpose: Simulation-based training is common in safety-critical industries including aviation, military, nuclear energy, and healthcare. Currently, a trainee's proficiency in a certain skill or task is usually assessed solely based on performance measures (e.g. errors, time). However, the processing efficiency theory makes an important distinction between processing effectiveness and processing efficiency while performing a task. Although an individual may be able to perform a task effectively (i.e., achieve good performance measures) they might still require a high cognitive effort to achieve that performance. Ideally, individuals should be trained not just to perform tasks effectively, but also efficiently. They should be able to perform well without dedicating a significant amount of their available cognitive resources to the task. Therefore, performance measures alone may not be reliable indicators of task proficiency. Neural signals may provide additional information about processing efficiency in certain tasks, and could be used as a complementary objective measure of an individual's learning.

The purpose of this study is to identify features of neural signals that correlate with learning a navigation-based task, and use them to automatically classify "proficient" from "not proficient" conditions, on a single-trial basis.

Methods: Neural data, via electroencephalogram (EEG), will be collected from naïve participants as they learn to navigate an unknown spatial environment under virtual environment based simulation. Participants will complete a set of tasks that will facilitate the learning of the environment. The trials will be divided into groups representing proficiency level based on objective performance measures and subjective reports of cognitive effort. Features thought to be useful in distinguishing untrained from trained trials (e.g. those related to mental workload, task specific neural processes, processing efficiency) will be extracted from the pre-processed data signals. Features will be selected from the data to represent the physiological indicators of spatial knowledge proficiency. An optimal feature set will be used in combination with linear and non-linear classifiers to identify users' level of proficiency in the navigation task.

Results: Data collection and analysis are ongoing.

Conclusion: It is anticipated that this work could lead to the development of a complementary objective measure to assess learning in simulation-based training.

A RETROSPECTIVE COHORT STUDY OF CANADIANS WHO STUDIED MEDICINE ABROAD AND OTHER INTERNATIONAL MEDICAL GRADUATES' REALIZATION OF ENTRY-TO-PRACTICE MILESTONES

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Rima Kandar, *Canadian Post-MD Education Registry, Association of Faculties of Medicine of Canada*;
Steve Slade, *Royal College of Physicians and Surgeons of Canada*;
Sue Beardall, *Health Canada*; Ivy Bourgeault, *Telfer School of Management*

ABSTRACT: Poster (P-8)

- Purpose:** Visa trainees are international medical graduates (IMG) who come to Canada to train in a post-graduate medical education (PGME) program under a student or employment visa, and are expected to return to their country of origin after training. We examined the credentialing and retention of visa trainees who entered PGME programs between 2005 and 2011.
- Methods:** Using the National IMG Database, we created two cohorts and examined the three milestones: 1) obtaining a post-graduate position, 2) passing the Medical Council of Canada Qualifying Examination Part 2 (MCCQE2), and 3) obtaining a specialty designation. We excluded visa trainees and American medical school graduates. Each cohort included IMG who had completed pre-requisites for each milestone, and who would have normally realized the milestones between 2005 and 2011 (the period covered by the Database).
- Results:** Among 6,925 eligible IMG in cohort 1, 31% obtained a post-graduate position. Of the 1,214 in cohort 2, 92.8% passed the MCCQE2 and 73.2% obtained a specialty designation. After controlling for other significant predictors, Canadians who graduated from Western or Caribbean medical schools (OR=4.89; 95%CI=4.00-6.00) and Canadians who graduated from other (not Western or Caribbean) medical schools (OR=1.57; 95%CI=1.37-1.79) were more likely to obtain a post-graduate position than non-Canadian IMG who graduated from other medical schools. There was no difference among the IMG groups in passing the MCCQE2 or obtaining a specialty designation.
- Conclusion:** These findings support policies that do not distinguish post-graduate applicants by citizenship or permanent residency prior to medical school.
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POST-GRADUATE MEDICAL EDUCATION EXAMINATION OUTCOMES AND WORK LOCATIONS OF IMG FAMILY MEDICINE RESIDENTS IN CANADA

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ABSTRACT: Poster (P-9)

- Purpose:** Due to the competition among international medical graduates (IMG) for the limited number of residency positions, it is important to understand the relationship between qualifying for full licensure and work location of IMG family medicine trainees. We describe the post-graduate medical education (PGME) examination and work location outcomes of IMG who entered family medicine residency programs between 2005 and 2009 and identify differences between Canadians studying abroad (CSA) and non-CSA IMG.
- Objective:** We used data from the National IMG Database and Scott's Medical Database to identify examination and work location outcomes of all IMG who had first entered a family medicine residency program between 2005 and 2009, with the exclusion of US graduates, visa trainees, and fellowship trainees. Using this data, we examined four outcomes: 1) pass the Medical Council of Canada Qualifying Examination Part 2 (MCCQE2), 2) obtain Certificat of the College of Family Physicians (CCFP) designation, 3) work in Canada within two years of completing PGME training, and 4) work in Canada in 2015.
- Results:** Of the 876 residents in the study, 96.1% passed the MCCQE2, 78.1% obtained a specialty designation, 37.7% worked in Canada within two years after PGME, and 91.2% worked in Canada in 2015. Older graduates were more likely (OR=3.45; 95%CI=1.52-7.69) than recent graduates to pass the MCCQE2, whereas residents who participated in a skills assessment program prior to their PGME training were more likely (OR=9.60; 95%CI=1.29-71.63) than those who had not to pass the MCCQE2. Women were more likely (OR=1.67; 95%CI=1.20-2.33) to obtain family medicine credentials than men. Recent graduates were more likely (OR=1.36; 95%CI=1.03-1.79) than older graduates to work in Canada following training. Residents who were eligible for a full license were more likely (OR=3.72; 95%CI=2.30-5.99) to work in Canada in 2015 than those who were not eligible for a full license.
- Conclusion:** While most IMG who entered the family medicine PGME program passed the MCCQE2, one in five did not obtain CCFP credentials. Most IMG residents remain in Canada. CSA and non-CSA IMG share similar exam success rates and retention rates.

CREDENTIALING AND RETENTION OF VISA TRAINEES IN POST-GRADUATE MEDICAL EDUCATION PROGRAMS IN CANADA

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Steve Slade, *Royal College of Physicians and Surgeons of Canada*;
Sue Beardall, *Health Canada*; Ivy Bourgeault, *Telfer School of Management*;
Linda Buske, *Canadian Post-MD Education Registry, Association of Faculties of Medicine of Canada*

ABSTRACT: Poster (P-10)

- Purpose:** Visa trainees are international medical graduates (IMG) who come to Canada to train in a post-graduate medical education (PGME) program under a student or employment visa, and are expected to return to their country of origin after training. We examined the credentialing and retention of visa trainees who entered PGME programs between 2005 and 2011.
- Methods:** Using the Canadian Post-MD Education Registry's National IMG Database linked to Scott's Medical Database we examined four outcomes: 1) passing the Medical Council of Canada Qualifying Examination Part 2 (MCCQE2), 2) obtaining a specialty designation (CCFP, FRCPC/SC), and 3) working in Canada after training and 4) in 2015. The National IMG Database is the most comprehensive source of information on IMG in Canada; data were provided by physician training and credentialing organizations. Scott's Medical Database provides data on physician locations in Canada.
- Results:** There were 233 visa trainees in the study; 39.5% passed the MCCQE2, 45.9% obtained a specialty designation, 24.0% worked in Canada after their training, and 53.6% worked in Canada in 2015. Family medicine trainees (OR= 8.33; 95%CI= 1.69-33.33) and residents (OR= 3.45; 95%CI= 1.96-6.25) were more likely than specialist and fellow trainees, respectively, to pass the MCCQE2. Residents (OR= 7.69; 95%CI= 4.35-14.29) were more likely to obtain a specialty credential than fellows. Visa trainees eligible for a full license were more likely than those not eligible for a full license to work in Canada following training (OR= 3.41; 95%CI= 1.80-6.43) and in 2015 (OR= 3.34; 95%CI= 1.78-6.27).
- Conclusion:** Visa training programs represent another route for IMG to qualify for and enter the physician workforce in Canada. The growth in the number of visa trainees and the high retention of these physicians warrant further consideration of the oversight and coordination of visa trainee programs in provincial and in pan-Canadian physician workforce planning.
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A PILOT STUDY: SITUATIONAL JUDGEMENT TEST FOR SELECTION OF UNDERGRADUATE MEDICAL STUDENTS AT MEMORIAL UNIVERSITY OF NEWFOUNDLAND

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Fiona Patterson, Victoria Roe, *Work Group Psychology*; Donnamarie
Khalili, *Admissions Office, Faculty of Medicine*

ABSTRACT: Poster (P-11)

- Purpose:** Situational Judgment Tests (SJTs) have recently been used in selection for medical school. SJTs are reliable and fair, can predict performance in the medical profession, and can be used to accurately assess the attributes and competencies, which an individual school deems important in their context. Performance is not affected by socioeconomic status, which is important in accepting a diverse student body. The Faculty of Medicine in partnership with the Work Psychology Group (WPG) in the UK designed and piloted a bespoke SJT in 2016.
- Methods:** The SJT was developed in five stages: 1) *Test specifications*, determined the purpose and parameters of the SJT. 2) *Item writing and development*, the WPG and selected local education experts proposed items that were important to the Undergraduate Medical Education program. 3) *Item review*, a different group reviewed the items to determine appropriateness of the items and refine them into scenarios. 4) *Concordance panel*, twelve different stakeholders met and discussed the scenarios to ensure that each scenario had an appropriate rating. 5) *Pilot* of the SJT administered during interview day.
- Results:** The pilot had a 98.7% response rate, 241/244 applicants consented to participate. A psychometric evaluation was used to analyze the SJT results. Of the 97 items in the SJT, 83 items scored well psychometrically. The 14 items that performed poorly were removed. The item level results, divided the items into four sections, Good 14 (17%), Satisfactory 21 (25%), Moderate 18 (22%) and Limited 30 (30%). The item quality was determined partly by the item partial and the degree of correlation between the item and the total SJT score. Analysis of test level group differences were compared by gender and age. Females scored significantly better than males on the SJT (male mean= 320.38, female mean = 326.86, $p < 0.05$). There was no statistical significance between ages. The SJT was also compared against the medical school interview scores and there was a positive correlation with traditional interview total score.
- Conclusion:** The analysis of the pilot data indicated that the SJT is good tool to measure non- academic attributes as part of the selection criteria.

ONLINE RESOURCES IN A GLOBAL HEALTH CURRICULUM

Sarah Simms, *Medical Student*; Monica Kidd, Russell Dawe, *Discipline of Family Medicine*

ABSTRACT: Poster (P-12)

- Purpose:** Online educational resources play an important role in post-graduate medical education, particularly in competency areas that are challenging to teach in a classroom setting. Memorial University Faculty of Medicine is developing a new program in Care of Underserved Populations and has identified a need for such online resources to support learners. A scan of available online resources in Global Health and Care of Underserved Populations GH/CUP was conducted to identify what resources currently exist, as well as which topics could benefit from further online resources being developed.
- Methods:** A review of the peer-reviewed publications and grey literature was conducted to identify online educational resources that are available and accessible for medical learners with an interest in GH/CUP. Resources used in this review were obtained from the Health Sciences Library, personal communication with other programs and experts in the area, Google searches, and other program websites. These resources were mapped by features (delivery format, time required, cost and certificate of completion provided), CanMEDS-competency roles, and learning topics into a working catalogue.
- Results:** 74 online resources were reviewed with content related to aboriginal health, adult and child health, disaster preparedness and response, specific diseases epidemiology, global health delivery, resource-limited settings, pre-post departure training, cultural competency, advocacy, social determinants of health, partnerships, health systems and policy, principles and ethics of global health, and community engagement. The format of different online resources varied and included websites, online PowerPoints, videos, E-libraries, online certificate programs, Open Courseware and blogs. Some of the resources reviewed had a component of evaluation and proof of completion, however topics such as aboriginal health had no resources with these features.
- Conclusion:** This review revealed a diversity of content, formats, evaluation methods and public availability of online resources, but few previous efforts have been made to systematically catalogue the resources or link content to competencies and CanMEDS roles. A catalogue of resources with descriptors of content and CanMEDs roles addressed could provide efficient access to applicable material to address learning needs prior to in the field electives, and as a part of a competency based educational program.
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COUNTRY MOUSE, CITY MOUSE II: EXAMINING COMMUNICATION BARRIERS BETWEEN RURAL PHYSICIANS AND URBAN CONSULTANTS IN NEWFOUNDLAND AND LABRADOR

Tia Renouf, Megan Pollard, Megan Morrison, *Discipline of Emergency Medicine*; Desmond Whalen, *MD Student*
Adam Dubrowski, Courtney Abbott, *Discipline of Emergency Medicine*

ABSTRACT: Poster (P-13)

- Purpose:** Good communication between healthcare professionals is essential in order to ensure patient safety and mitigate issues caused by rural isolation. However, miscommunication between rural/remote physicians and urban specialists is commonplace. Understanding the perspectives of communicating parties is necessary in order to identify causes of communication barriers and alleviate problems.
- Methods:** Our objective was to examine perceived communication barriers between rural family physicians and urban specialists in NL. Participants will be recruited using purposive sampling until there are 16 urban and 16 rural physicians. Four online focus groups (2 urban, 2 rural) were conducted with 8 participants each. Physicians were asked to discuss previously-identified communication barriers with the other party, and suggest solutions. A grounded theory approach was used to inform the analysis of the resultant data, prompt further focused discussion, and identify main themes.
- Results:** Both professional groups perceived communication difficulties with one another. Preliminary thematic analyses of four focus groups revealed common themes related to miscommunication: available supports, contextual factors, professional relationships, and time constraints. Possible solutions included general education about rural contexts, improved technology, rural mentorship programs, and standardized consultation methods.
- Conclusion:** Rural family physicians and urban consultants in NL perceive communication barriers with one another. We predict improved communication strategies to be multifactorial, involving systems improvement and further education about communication and context-specific factors. Knowledge of these processes may help policy makers and researchers to design quality improvement strategies. Future phases of this research will use results from the focus groups to develop a communications teaching tool in order to enhance communication between the two professional groups of physicians, with the ultimate goal of decreasing communication-related errors and improving patient care.

PERSPECTIVE: INTERPROFESSIONAL EDUCATION: SKILLS TRAINING (IPST) TEAM PROJECTS, PROCESSES, AND REACTIONS

Adam Reid, *Centre for Collaborative Health Professional Education*; Liban Mohamed, Rebecca O'Leary, Ceire Storey, Hilary Walsh, *MD Students*;
Mackenzie Dove, Rachel Ward, *School of Pharmacy*;
Cian Kavanagh, Samuel Wilkes, *School of Social Work*;
Alyssa Power, *School of Human Kinetics and Recreation*;
Evan Perry, Andrea Smith, *School of Nursing*; Melanie Murphy, *Eastern Regional Health Authority*

ABSTRACT: Poster (P-14)

Purpose: Along with their peers in the Schools of Pharmacy, Nursing, Social Work, Human Kinetics and Recreation, and the Doctor of Psychology Program, Medicine students at Memorial complete the Interprofessional Education: Skills Training (IPST) program. As part of the first IPST topic (Team Functioning), interprofessional student teams must collaborate on a project that will demonstrate their understanding of interprofessional roles and team dynamics. The purposes of this poster presentation are:

1. to describe the IPST team project structure using examples from four cohorts of IPST students,
2. to present and discuss one such team project which incorporated an innovative, creative arts-based approach seldom adopted, and
3. to describe and compare across professions the feedback provided by and to IPST participants.

Methods: Faculty facilitators for each team informed their students that the format of each project was left deliberately open to the team's discretion to allow students to experience and learn from the team's collaborative and creative processes.

Student teams presented their projects to a panel comprising IPST facilitators and peers, who provided structured feedback. Team projects were rated along three dimensions - *interprofessional team member representation, demonstration of professional and cultural respect, and evidence of student teamwork.*

Results: IPST student teams have chosen a variety of formats for their presentations, frequently choosing PowerPoint lectures, interactive game-shows, video and live role-plays. In this case, the team demonstrated their knowledge using a collection of interconnected abstract paintings. When assembled, the paintings portrayed the image of a whole person in the centre; as the team submitted, "all the paintings come together to showcase the most important aspect of all of our healthcare-related professions, patient centred care." Assessment and evaluation feedback indicated a positive reaction to the creative and curricular components of the project(s).

Conclusion: IPST student teams overcome a desire for more structured curricular assignments to produce their team projects. Through this assignment, interprofessional teams undergo a process through which they learn with, from and about each other to demonstrate their understanding of collaboration skills and knowledge. Creativity in this process can deepen and enhance learning for this and other programs.

THE APPLICATION OF QUALITY IMPROVEMENT PRINCIPLES TO UNDERGRADUATE MEDICAL EDUCATION

Victor Maddalena, *Community Health and Humanities*; Amanda Pendergast, *Discipline of Family Medicine*;
Gerona McGrath, *Medical Education Scholarship Centre*

ABSTRACT: Poster (P-15)

- Purpose:** The purpose of this poster is to highlight one of the innovative additions to program evaluation made to address the needs of a spiral curriculum in an undergraduate medical education setting.
- Methods:** Although grounded in quality improvement literature in both healthcare and business contexts, the project did not follow a research methodology. Rather the purpose of the poster is to explain how quality improvement principles were applied in one context and the related outcomes.
- Results:** The Quality Improvement (QI) sessions provided administrators with a mechanism to gather student feedback efficiently and facilitated timely feedback to students. The more important outcomes from QI were:
- decreased student anxiety by providing a channel to express themselves in a supportive environment with their peers
 - reduced feelings of isolation by seeing that peers were having many of the same issues/concerns
 - students could see that their concerns were being heard and acted upon or were told why a particular situation could not change
 - helped give students a sense of empowerment at a time when they were likely overwhelmed with both the pressures of medical school and the uncertainty around expectations on them
 - the sessions also provided an opportunity for students to show leadership and develop professionalism skills such that they were able to articulate criticisms in a collegial, respectful manner
 - the QI sessions also afforded administrators and curriculum leaders the opportunity to identify and resolve curriculum or student issues in a timely manner
- Conclusion:** Applying quality improvement principles to undergraduate medical education can lead to higher levels of satisfaction among students, greater student participation, and more timely feedback to administrators and curriculum leaders.

THE INTRODUCTION OF ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPAS) INTO THE UNDERGRADUATE MEDICAL EDUCATION CURRICULUM AT MEMORIAL UNIVERSITY

Katherine Stringer, *Discipline of Family Medicine*;

Diana Deacon, Heidi Coombs-Thorne, Gerona McGrath; Vernon Curran, *Medical Education Scholarship Centre*;

Norah Duggan, *Discipline of Family Medicine*

ABSTRACT: Poster (P-16)

Purpose: In 2015, the Faculty of Medicine at Memorial University introduced Entrustable Professional Activities (EPAs) into the undergraduate medical education clerkship curriculum. EPAs are tasks or responsibilities that learners are expected to perform without direct supervision, once they have gained sufficient specific competence. Our introduction of EPAs included the 13 EPAs identified by the American Association of Medical Colleges (AAMC) in 2014. To introduce EPAs into clerkship, assessment specialists mapped the 13 EPAs identified by the AAMC to the CanMEDS competencies and undergraduate learning objectives. They then revised the clerkship assessment tools to reflect the language of EPAs and created new clinic cards for each rotation in clerkship. The cards contained EPAs-specific assessment statements that were appropriate for each rotation. They provided educators with two assessment options for gauging student performance: “entrustable” and “pre-entrustable,” and also included sections for qualitative feedback. They were primarily used for formative assessment but also informed the In-Training Assessment Reports for summative assessment. This project outlines and evaluates this process of introducing EPAs into the clerkship curriculum.

Methods: To evaluate this introduction of EPAs into clerkship, the research team held a focus group with the Clinical Discipline Coordinators and administered two surveys: one for faculty involved with assessing clerks during rotations and the other for third-year students enrolled in clerkship (Phase 4, Class of 2017). Data also included course evaluation results.

Results: All data-collection methods identified benefits and challenges related to the introduction of EPAs into clerkship and the clinic cards assessment system. 74.7% of respondents to the faculty survey felt the EPAs accurately reflected the activities of students in the discipline and 62.8% felt the clinic cards were effective for capturing student performance. The student evaluation data, survey results, and focus group results agreed that the clinic cards improved formative feedback for students. However, the binary nature of the cards (entrustable vs pre-entrustable) was problematic for both faculty and students and has since been changed to three categories to more easily highlight progress. Students and faculty also agreed that the concept of EPAs and the clinic cards were not well understood by faculty, resident preceptors, or students.

Conclusions: Our analysis indicates that EPAs can be successfully introduced into undergraduate medical education during clerkship. Such an introduction requires the mapping of EPAs to the CanMEDS competencies and undergraduate learning objectives, the adaptation of existing assessment tools to reflect the language of EPAs, and the creation of a new EPAs-specific assessment tool – the clinic card. This presentation will provide insight into introducing and assessing EPAs in clerkship and can inform similar initiatives in undergraduate medical education.

AN EVALUATION OF THE CHARACTERISTICS OF A CLINIC CARD TO ASSESS PROGRESSION IN ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPAS) IN UNDERGRADUATE MEDICAL EDUCATION: A CASE STUDY OF THE SURGERY ROTATION

Vernon Curran, Diana Deacon, *Medical Education Scholarship Centre*;
Katherine Stringer, *Discipline of Family Medicine*; Heidi Coombs-Thorne, *Medical Education Scholarship Centre*;
Henry Schulz, *Faculty of Education*; Craig Stone, *Discipline of Surgery*;
Norah Duggan, *Discipline of Family Medicine*

ABSTRACT: Poster (P-17)

- Purpose:** In 2015, a new programmatic assessment process involving clinic cards was introduced in clerkship as part of the integration of Entrustable Professional Activities (EPAs) into the undergraduate medical education curriculum at Memorial University. EPAs are tasks or responsibilities that learners are expected to perform without direct supervision, once they have gained sufficient specific competence. They are gaining increasing attention as a conceptual tool to help supervisors determine student competence in the years leading to residency. This project involves an evaluation of this new EPAs-based assessment system, focusing on the surgery rotation.
- Methods:** The assessment scores for completed clinic cards for all students completing the core surgery rotation were compiled and aggregated for the initial academic year in which EPAs were introduced. Statistical analysis of the ratings was conducted to examine variance by time, EPA, training site, and assessor role. Open-ended comments provided by assessors on the forms were analyzed using thematic analysis.
- Results:** Significant increases in the proportion of entrustable ratings over time were found for the majority of EPAs. Significantly different proportions of entrustable ratings were also found for different EPAs. For the majority of EPAs, there were no significant differences in entrustable ratings between the two St. John's hospital sites and more peripheral sites. With the exception of two EPAs, ratings of entrustability did not differ between assessors who were attendings and residents. Thematic analysis and frequency summary demonstrated that a more descriptive level of feedback was provided under the 'achievements' section of the cards than in the 'coaching' section. Four thematic categories were identified from the comments in the 'achievements' section: EPAs completion, CanMEDS competencies, progress/comparative, and non-specific feedback. Three categories were identified for the 'coaching' comments; self-directed knowledge, EPAs development, and general encouragement.
- Conclusion:** This analysis supports the validity and feasibility of clinic cards for assessing EPAs in a core surgery rotation in undergraduate medical education.

TEACHER EFFECTIVENESS EVALUATION: A CROSS-SECTIONAL STUDY ON THE ASSOCIATION BETWEEN THE QUANTITATIVE SCORES AND QUALITATIVE COMMENTS

Alan Goodridge, *Discipline of Medicine*;
Gerona McGrath, Heidi Coombs-Thorne, *Medical Education Scholarship Centre*
Patrick J. Fleming, *Division of Dermatology, Department of Medicine, University of Toronto*;

ABSTRACT: Poster (P-18)

- Purpose:** Teacher effectiveness evaluation includes the systematic collection and interpretation of data on faculty and it is critically imperative for quality improvement within both undergraduate and postgraduate medical education. Evaluation of teachers is an important accreditation standard and is increasingly relied on in faculty promotion. However, the use of teacher effectiveness surveys and the Likert scale is controversial with many questioning the validity. The primary objective of our study is to determine the association of teacher effectiveness scores with either positive or negative comments among pre-clerkship medical students at Memorial University of Newfoundland. Here we report on our pilot analysis examining a sample of teacher evaluations in the Basic Science of Medicine and Integrated Study of Disease I courses.
- Methods:** This is a cross-sectional study utilizing learner evaluations of teachers in the pre-clerkship program at Memorial University for the 2012-2013 academic year. Two members of the research team coded comments as positive or negative and were blinded to the overall instructor score. This initial analysis of one year's worth of data was meant to serve as a pilot to determine whether more in-depth analysis over a longer period of years is warranted. Statistical analysis included a Kendall's Tau-Beta for dichotomous associations and a Kruskal-Wallis one-way analysis of variance (positive vs. negative comments) against our outcome variable (overall teaching score). Alpha was 0.05 and two-sided.
- Results:** N=114 unique evaluations were identified in our pilot analysis with a mean faculty score = 4.2 (standard deviation: 0.33). and a mean response rate = 55.2 (SD: 18.5). 65.8% of comments were considered positive. Using Kendall's Tau-Beta, there was a 42.4% association between positive comments and increased teaching score ($P < 0.0001$).
- Conclusion:** High teacher effectiveness scores appear to have a moderate and statistically significant association with positive comments based on our pilot analysis. This finding reinforces the face validity of this evaluation modality in the assessment of faculty teaching in a lecture setting. They should be used holistically with other indicators of teacher effectiveness. We anticipate our planned larger study will further validate these findings.

EVALUATION OF THE COLLABORATOR OBJECTIVE STRUCTURED CLINICAL EXAMINATION (COSCE)

Ian MacPherson, Pamela Pike, *Discipline of Medicine*; Jennifer O'Dea, *Discipline of Pediatrics*;
Jim Farrell, Bryan Curtis, Julia Trahey, *Discipline of Medicine*;
Vernon Curran, *Medical Education Scholarship Centre*;
Adam Reid, Brenda Kirby, *Centre for Collaborative Health Professional Education*;
Frank MacLean, *Clinical Learning and Simulation Centre*;
Heidi Coombs-Thorne, *Medical Education Scholarship Centre*

ABSTRACT: Poster (P-19)

- Purpose:** Postgraduate medical education in Canada is structured around the CanMEDs Physician Competency Framework, which outlines seven competencies essential to the practice of medicine. The assessment of non-Medical Expert competencies, like 'Collaborator,' can be challenging for postgraduate medical educators. Recent literature has highlighted the potential of objective structured clinical examinations (OSCEs) and peer assessment to assess and provide developmental feedback on non-Medical Expert competencies. This project involved the creation and evaluation of a new Collaborator OSCE (COSCE) to assess Collaborator competency development in postgraduate medical education.
- Methods:** The COSCE involved 7 stations mapped to the CanMEDs Collaborator competencies, including: Patient Discharge; Handover; Transfer of Care; Shared Decision-Making; Caregiver; Collaborative Care Plan; and Disclosure. PGY1 residents rotated in small groups through each station, with each resident expected to demonstrate collaborator competency development in at least one station. Evaluation of the COSCE encompassed a mixed-methods design including a pre- and post-test of self-reported team skills development, faculty and peer assessment using a standardized rubric, a resident satisfaction survey, and an evaluation survey of faculty observers and standardized patients.
- Results:** The Team Skills Scale measured the self-perceived ability to function in a team-based health/social care environment. The results of the COSCE demonstrated a clear increase in self-perceived team skills among residents, from 3.05 to 3.42 ($t(71) = -2.75$; $p < .01$). According to their formative assessment results, residents' performed well in the stations and the learning objectives for the COSCE were met. Inter-rater agreement between resident peers and faculty observers was moderate overall, but inconsistent and the structure of this COSCE impeded a strong estimate of reliability.
- Conclusion:** Non-Medical Expert or "intuitive" competencies, like Collaborator, are essential for medical practice. The COSCE is a valuable formative exercise for first-year residents and can assist medical educators with assessing the inter-professional skills of residents

EFFECT OF A HANDOVER TOOL ON RESIDENT AND STAFF ATTITUDES TOWARD PATIENT HANDOVER IN A GENERAL PAEDIATRICS INPATIENT UNIT

Joy Clements, Jennifer O'Dea, *Division of Paediatrics*

ABSTRACT: Poster (P-20)

- Background:** Patient handover, the transfer of information and responsibility from one set of caregivers to another, is a topic which has received international attention over the past several years. It is well known that improvements in patient handover can lead to reductions in medical errors and preventable adverse events. Unfortunately, patient handovers often contain inadequate information. Despite this, many centres, including the Janeway Children's Hospital, do not have standard handover procedures.
- Learning Objectives:** The aim of the current study is to assess resident and staff perceptions of patient handover in our General Pediatrics Unit before and after the implementation of a handover tool. Our hypothesis is that a structured handover tool will improve resident and staff satisfaction with handover in our centre.
- Methods:** We recruited residents and staff from the Janeway Children's Hospital to respond to a written pre-survey regarding patient handover. Afterwards, a standardized handover tool was implemented on the General Pediatrics Ward for 8 months. Participants then completed a postsurvey, the results of which were compared with the pre-survey.
- Results & Discussion:** Among residents, there were 19 participants in the pre-survey and 15 in the post-survey. Among staff, there were 13 participants in the pre-survey and 7 in the post-survey. Data were analyzed using SPSS version 24 independent T-test. After implementation of the handover tool, residents were significantly less likely to later discover an important piece of information which was not given during handover (2.95 vs. 2.33, 95% CI 0.144, 1.084, $p < 0.05$). Otherwise, there was no difference in resident or staff attitudes toward handover in the pre and post survey.
- Take Home Message:** Implementation of a handover tool significantly reduces the late discovery of information among residents on a general paediatrics inpatient unit.

IDENTIFYING INDIVIDUALS AT RISK FOR ARVC CAUSED BY TMEM43 P.S358L: A GENETICS EDUCATIONAL TOOL FOR PRIMARY CARE PHYSICIANS

Kathy Hodgkinson, Holly Etchegary, *Clinical Epidemiology*;
Lauren Rickert, *Faculty of Medicine*

ABSTRACT: Poster (P-21)

Background: Genetics and genomics medicine is becoming integrated into primary care. While many Primary Care Physicians (PCPs) report a lack of confidence in referring and counselling patients, knowledge, experience, and skills to adequately fulfill their role, PCPs acknowledge this integration. Newfoundland and Labrador (NL) has a high incidence of arrhythmogenic right ventricular cardiomyopathy (ARVC) caused by the *pS358L TMEM43* mutation. Its first indication can be sudden cardiac death (SCD). Timely referral of at-risk individuals to genetic/cardiac services is critical as correct diagnosis significantly reduces mortality by enabling effective treatment with an implantable cardioverter defibrillator. Short, concise summaries of genetic conditions that highlight “red flags” are effective tools for educating PCPs. However, no tool currently exists for this subtype of ARVC.

Methods:

1. Draft tool reviewed with a physician focus group
2. Based on feedback, family history data from 26 known families in NL analysed to inform next iteration
3. Revised tool will be distributed to PCPs and Family Medicine Residents in NL for review before final tool modifications and distribution

Results: A physician focus group identified that the tool needed to be concise and provide clear referral warning signs. The 26 known families were assessed for the number of relatives (with SCD ≤ 50 yrs) of affected individuals ($n=409$). Of these 409, 160 were diagnosed following SCD (i.e., unrecognised as being at-risk prior to their final symptom), of which 56%, 39% and 31% had at least one first, one second and one third degree relative presenting with an SCD (≤ 50 yrs) respectively, with 19% having no known affected relatives. Family history of young SCD therefore is a significant ‘red flag’ and will inform the tool’s next iteration.

Conclusions: Extended family histories provided quantitative concise information to update the tool and provide one clear referral guideline for immediate referral to specialists.

INSITU SIMULATION OF AN MH CRISIS IN AN ECT TREATMENT UNIT; IMPROVING PATIENT SAFETY THROUGH EDUCATION AND IDENTIFYING LATENT ERRORS

Noel O'Regan, *Discipline of Anesthesia*;
Michaela Burke, *MD Student*

ABSTRACT: Oral Presentation

Purpose: Malignant Hyperthermia (MH) is a rare life threatening event and the drugs and equipment required are unique to this situation. Problems or issues caused by unfamiliarity or unrecognized lack of resources can put patients at further unnecessary risk. These latent errors can be uncovered by testing the system by running a simulation in the actual patient care area or an Insitu simulation.

Electro-convulsive therapy (ECT) is a treatment option for various psychopathologies treated at the Waterford Hospital. Recently, the ECT unit at the Waterford Hospital upgraded their resuscitation cart. This included the equipment necessary to run a MH crisis. An informal needs assessment was done with the head nurse of the ECT unit. It was found that there was a need for education of MH crisis as well as crisis resource management (CRM). It would be important to identify if there were any potential latent errors in the management of a MH crisis. It was proposed that an Insitu simulation event would be a valuable tool for both education and identifying latent errors.

Methods and Results: Scenario Generation: The intended participants were Eastern Health Nursing Staff of the Waterford ECT Treatment Unit. The objectives of the event were to i) assist with and discuss the management of MH and ii) discuss and apply the general principals of CRM. A storyboard and script was then generated for the scenario where the nursing staff would assist with resuscitation.

The live scenario with the Waterford staff is scheduled for March 28th, 2017. Following the scenario, a debrief will be conducted to facilitate reflection on the experience and identify knowledge gaps. As well the debrief will be used to identify latent errors. A checklist has been previously developed for identifying latent errors in the perioperative management of MH (manuscript currently being written) will be used to document latent errors. A post event survey will be used to assess learning value.

Conclusion: The anticipated conclusions would be to discuss how Insitu simulation helped identify latent errors and how this would improve patient care. I would also discuss the results concerning Insitu simulation as an effective education tool.

CAN A CHANGE MANAGEMENT APPROACH ENHANCE THE ACCREDITATION PROCESS?

Tanis Adey, Taryn Hearn, *Discipline of Psychiatry*;
Heidi Coombs-Thorne, *Medical Education Scholarship Centre*

ABSTRACT: Oral Presentation

- Purpose:** Accreditation is fundamental to the delivery of medical education in North America. At Memorial University, we have noticed a lack of engagement with the accreditation process among faculty, staff, and students. This project is the first step in addressing this complacency and improving accreditation awareness and engagement.
- Methods:** This mixed-methods project involved qualitative feedback from a series of Grand Rounds presentations and the distribution of a survey to approximately 1650 faculty, staff, and students at the Faculty of Medicine, Memorial University. The survey included both quantitative and qualitative questions to gauge respondents' knowledge and opinions of the accreditation process and to identify current strengths and limitations.
- Results:** We received 234 responses, with a response-rate of 14.2%. The majority of respondents (78.6%) stated that they were not involved with the accreditation process. However, when asked if they have participated in specific aspects of the accreditation process, 53% agreed. Approximately half (50.2%) of respondents were not familiar with the MD program accreditation requirements. Respondents identified a lack of communication, lack of faculty engagement, and departmental/divisional silos as barriers to accreditation compliance at Memorial University. In terms of improving the accreditation process, respondents identified communication and increased student engagement as valuable activities.
- Conclusion:** The fact that the majority of respondents answered that they were not involved with the accreditation process but over half of them agreed that they participated in accreditation-related activities suggests that faculty, staff, and students undervalue their own participation in the process, despite the importance of their contributions. Participants were also unfamiliar with the Interim Review Process and the peer-review aspect of accreditation. Based on the results of this project, we argue for a communication strategy to create a culture of accreditation awareness and continuing quality improvement.

EVALUATION RESULTS FROM THREE STUDENT COHORTS IN THE INTERPROFESSIONAL EDUCATION: SKILLS TRAINING (IPST) PROGRAM

Adam Reid, Olga Heath, *Centre for Collaborative Health Professional Education*;
Erin Davis, *School of Pharmacy*; Michele Neary, *Eastern Regional Health Authority*; Janice Parsons, *School of Social Work*;
Caroline Porr, *School of Nursing*; Anne Marie Sullivan, *School of Human Kinetics and Recreation*;
Carolyn Sturge Sparkes, Hubert White, *Faculty of Medicine*

ABSTRACT: Oral Presentation

- Purpose:** The Interprofessional Education: Skills Training program (IPST) brings learners from Medicine and six other health/social care faculties/schools together in small and consistent interprofessional teams to learn with, from and about each other how to provide effective patient/client centred care. This oral presentation summarizes evaluation feedback from the first three cohorts of learners to complete the IPST program and outlines how feedback led to measurable changes in the IPST curriculum.
- Methods:** Learners enrolled in the IPST program were invited to complete pen-and-paper surveys before and after the two-year long program, and after each of the eight IPST sessions. Pre-post surveys included measures of learners' attitudes towards interprofessional health care, self-reported teamwork skills, and interprofessional socialization factors. Mixed-methods post-session surveys captured reactions to learning activities and experiences. This evaluation framework enabled means comparisons across sessions, cohorts and learner professions.
- Results:** Post-session feedback from students was generally positive in terms of the reaction to the overall curriculum. Significant differences between learner's reactions to the individual sessions were often driven by contextual factors outside of IPST that may have influenced their experiences, such as scheduling conflicts and assessment structures. Pre-post attitudinal and knowledge measure comparisons produced mixed results, providing evidence of skill and knowledge growth in the face of educational fatigue and perceived artificiality of interactions. Where necessary, these results provided the impetus for program adjustments.
- Conclusion:** Evaluation of the IPST program provided evidence that learning outcomes were consistent with IPE objectives. Feedback also reinforced the need for the program to evolve and incorporate new curriculum and assessment components to align with the needs and contexts of learners from diverse professional schools. During the presentation we discuss Memorial's new interprofessional education portfolio that is founded on the feedback from learners, best teaching practices, involved faculty and IPST team facilitators.

DEVELOPING A COMPREHENSIVE INTERPROFESSIONAL EDUCATION (IPE) CURRICULUM FOR HEALTH AND SOCIAL CARE IN NEWFOUNDLAND AND LABRADOR: THE “PROVINCIAL IPE PROJECT” UPDATE

Kristin Harris-Walsh, Chelsey McPhee, Olga Heath, Adam Reid, *Centre for Collaborative Health Professional Education*

ABSTRACT: Oral Presentation

Purpose: Interprofessional education (IPE), defined as individuals from two or more health or social care professions “learn[ing] with, from and about each other” (1), enables learners to develop effective collaboration skills and is increasingly understood as critical for medical and other health and social care professions (2). Memorial’s current IPE program evaluation indicates that early stage IPE training positively affects our learners’ attitudes regarding interprofessional care, team skills, and adverse event disclosure.

The Provincial IPE Project is in the process of creating a province-wide, cross-sectoral, pre- to post- licensure IPE curriculum blueprint and evaluation framework. This project will address the acknowledged gaps in IPE training by providing a comprehensive approach to IPE learning across the continuum of health/social care professional development.

The project objectives are to:

1. Develop partnerships and conduct IPE needs/capacity assessments with identified partners across sectors in which health and social professionals learn and work.
2. Develop pre- and post-licensure IPE curriculum and evaluation plans that meet the needs of identified partners.

Memorial’s Centre for Collaborative Health Professional Education (CCHPE) is leading this project in conjunction with academic, government, RHA, and community partners with the ultimate goal of improving safe, patient-centred care through enhanced IPE education across the learning continuum: from undergraduate health and social care learners through continuing education for professionals in practice.

Methods: This mixed methods project includes extensive consultations, key stakeholder interviews, telephone and online surveys, and a comprehensive literature review on best practices in IPE curricular development and evaluation.

Results: This presentation will focus on the IPE needs/capacity assessment results and our process for translating the assessment into a provincial IPE curriculum and evaluation framework.

Conclusion: The Provincial IPE Project has been successful in stakeholder engagement in the consultation and needs assessment data collection processes. Consistent with the increased focus on the value of a robust primary health care system, there is agreement that a provincial IPE program is urgently needed and may be a solution to challenges of the province’s current economic constraints. Ultimately there is recognition that the Provincial IPE Project will result in enhanced education, training, and therefore more comprehensive, effective, patient-centred care.

PLAYING FOR KEEPS: HOW TO USE SIMULATION FOR SUMMATIVE ASSESSMENT AND DETERMINATION OF COMPETENCE

Noel O'Regan, *Discipline of Anesthesiology*

ABSTRACT: Workshop

Competency based medical education is becoming a reality as more specialties are beginning Competency by Design. Simulation is a resource which will prove to be very valuable for demonstrating competence in many medical and surgical subspecialties.

This 90 minute workshop provide the framework of how to use simulation for high stakes summative assessment. Dr O`Regan is a core member of the Canadian National Anesthesia Simulation Curriculum (CanNASC) Task Force. CanNASC has developed a five scenario simulation summative assessment curriculum developed for senior anesthesia residents. The CanNASC curriculum has been approved by the anesthesia subspecialty committee of the Royal College of Physicians and Surgeons of Canada. Successful completion of the CanNASC Curriculum will be required prior to residents sitting for their Royal College Exam starting in 2022.

This workshop will help participants understand and manage many of the challenges that become apparent when using simulation for summative assessment.

Learning Objectives: At the end of the workshop participants will be able to:

1. Identify appropriate content for summative assessment using simulation.
2. Develop scoring rubrics and assessment tools for summative assessment using simulation.
3. Transition from a 'safe environment' to an exam using simulation.
4. Effectively debrief a summative assessment using simulation.
5. Identify pitfalls and landmines in summative assessment using simulation.

The participants in this workshop will work in small groups to generate an 'example curriculum', generate a scoring rubrics and develop a pre-brief to prepare their learners. Participants will also try commonly use assessment tools on previously recorded simulation. Finally we will examine problems that have occurred in summative simulation and discuss how to manage these issues.

STUDENT VOICES MATTER: A MODEL FOR ENGAGING STUDENTS IN CURRICULUM PLANNING

Shannon Bedford, *Student*; Catherine Grandy, *Pharmacy Student*;
Rebecca Greene, *Human Kinetics and Recreation Student*;
Olga Heath, *Centre for Collaborative Health Professional Education*;
Amie Mummery, *Nursing Student*; Adam Reid, *Centre for Collaborative Health Professional Education*;
Alysha Renouf, *Clinical Psychology Student*; Lily Repa, *Clinical Psychology Student*;
Jeff Siddal, *MD student*; Logan Slade, *School of Human Kinetics and Recreation student*;
Jemma Hache, *School of Pharmacy Student*; Melanie Johnston, *Student*

ABSTRACT: Workshop

Background/Rationale: Best practices in adult Interprofessional Education (IPE) curriculum development highlight the importance of learner input in the creation and revision of learning activities in which they will participate. Historically, IPE at Memorial has used post-event evaluation feedback as an approach to understanding student experience. Although the evaluation feedback has proven to be valuable and has resulted in significant shifts to the structure and content of IPE, the Centre for Collaborative Health Professional Education (CCHPE) has been examining ways to engage IPE students more proactively. In an effort to achieve this goal, we created an Interprofessional Student Advisory Committee (IPSAC) comprised of students representing participating schools and chaired by CCHPE leadership. A committee consisting primarily of students was chosen over a faculty dominated committee with the expectation that it would foster greater feelings of empowerment amongst the students and promote open and honest reflection and discussion. It is anticipated that increasing opportunities for meaningful student input is likely to result in more effective learning experiences.

Learning Objectives: At the end of the workshop participants will be able to:

1. Describe the undergraduate IPE programming for health/social professional schools at Memorial and how student feedback has been incorporated.
2. Explain the andragogy behind the new model of including students in curriculum development and revision.
3. Describe how the Interprofessional Student Advisory Committee was formed, the current makeup of the committee and its Terms of Reference.
4. Summarize the student experience on the committee, how it differs by profession and the student vision for how they can contribute in the future.
5. Explore the potential for this model of student contribution to curriculum development and revision for health and social professional schools.

Teaching Methods: This workshop is interactive with multiple opportunities for questions. There are faculty, staff and student presenters allowing for a 360-degree view of the process and experience of being a part of it. The last 30 minutes are spent exploring the challenges experienced, how they might be addressed and how participants might apply aspects of the process in their own programs.

USING STUDENT EVALUATION RESULTS TO IMPROVE TEACHING – A PRACTICAL GUIDE TO INTERPRETING TEACHING EVALUATION RESULTS AND USING THEM TO IMPROVE YOUR TEACHING

Gerona McGrath, *Medical Education Scholarship Centre*

ABSTRACT: Workshop

Background: Medical education is quite unique from many other forms of post-secondary programs. For the first two years of medical school students are generally taught courses by multiple instructors while in clerkship and residency, the teaching is often one-to-one. Evaluating the teaching done in these two very different settings can be challenging but can also provide excellent opportunities for instructors to utilize the feedback received. The main focus of this workshop is a practical activity that will see faculty members interpreting the results of actual teaching evaluations and using the information to improve their teaching

Learning Objectives: At the end of the workshop participants will be able to:

1. Interpret their teaching evaluation results.
2. Understand the uses and limitations of student evaluations.
3. Utilize teaching evaluations to inform their teaching and course planning.

Facilitation: Presentation – 20 minutes. The first part of the workshop will involve a short presentation by the facilitator about the processes surrounding faculty evaluation at the Faculty of Medicine and an explanation of how to interpret the information in evaluations. This will also involve a discussion of the reliability and validity of student evaluations at all levels of the learning continuum, how teaching evaluations can be used to support promotion and tenure applications, and how by following a simple 5-step process evaluations can foster reflection and improved teaching.

Activity – 40 minutes. In order to get the most out of the activity, all participants should bring copies of several teaching evaluations from different sets of learners or over several years. The evaluations are only for the purposes of the workshop and participants will not be asked to share their evaluations with anyone. Working individually or in pairs, participants will follow a series of steps to deconstruct their evaluations and develop an action plan based on the discoveries.

Sharing outcomes – 10 minutes. Participants will share their action plans with other participants and the facilitator.

Debrief – 5 minutes. Participants will be asked to describe what they learned in the session and how they will use it when they leave.

The timing for each activity may be slightly adjusted based on the number of participants and their specific interests.

WRITING IN MEDICAL EDUCATION: A STUDENT PERSPECTIVE

Emily Pye, *Applied Health Services Research*,
Diana L. Gustafson, *Community Health and Humanities*

ABSTRACT: Oral Presentation

- Purpose:** LCME requires that faculties of medicine include specific instruction in written communication skills. This MESC-funded case study explored medical students' experiences with developing writing competencies. This presentation will report the findings of a survey of medical students that examined the relationship among students' 1) self-reported writing competence, 2) self-regulated learning strategies, and 3) attitudes towards writing.
- Methods:** An online survey was distributed in the fall and winter semester to 320 medical students enrolled in all four years of undergraduate medical education at Memorial University. The four-part survey was constructed using SurveyMonkey, and included sections on writing competence, self-regulated learning strategies (adapted from a tool created by Purdie and Hattie (1996), attitudes towards writing, demographics, and an open-ended question. Recruitment e-mails were sent out a week before and after the 2-minute group information session to selected classes. Data were imported into SPSS and preliminary analyses were run using frequency analyses.
- Results:** The sample (N = 30) consisted of first year (n = 15) and second year (n = 15) students, and third year (n = 0). Fourth year students will be recruited in March. The majority of students rank their competence as either good (33%), very good (57%), or excellent (7%). Despite this high perception of writing competence, some questioned if their skill level was where it ought to be. Participants indicated that they have not received writing instruction in medical education (63%) or valuable feedback on their writing (60%), some characterizing it as vague and unclear. The students reported using the self-regulated learning strategies at varying degrees, but the most popular strategies were reviewing notes while studying (90%) and memorizing information (93%). Despite rating their writing ability as relatively good, text-based responses revealed that some students felt that they were not experienced with writing in medicine. Many (67%) saw the value of writing in medical education and expressed interest in attending workshops that could improve their writing (43%).
- Conclusion:** Student perspectives may inform curricular change, specifically the need to make written communication skills explicit in medical education. The students' interest in improving their writing skills and their use of the self-regulated learning strategies suggests that workshops to improve discipline-specific writing skills may be welcomed by students. More clear and consistent feedback from teaching faculty is also recommended. The next step is to conduct interviews with physicians to gain further insight on how medical professionals further along in their careers perceive their writing ability and their attitudes towards writing in medical education.

INTEGRATING THE ARTS AND LITERATURE IN THE UNDERGRADUATE MEDICAL EDUCATION AT MEMORIAL UNIVERSITY: REFLECTION ON ACCOMPLISHMENTS, CHALLENGES AND POSSIBILITIES

Natalie Beausoleil, *Division of Community Health and Humanities*

ABSTRACT: Oral Presentation

- Purpose:** Arts and literature are increasingly used in health professional education to promote empathy, observational and interpretive skills, reflection, and the health and well being of students. In this presentation I will share some of the results of my study entitled *The power to heal: promoting artistic activities and exploring the possibility of integrating an arts program in our medical school (Ingram Award)*. This study is contributing to the growing field of critical health/medical humanities in Canada and beyond.
- Methods:** I have conducted semi-structured interviews with medical students and faculty in Medicine at Memorial University and a few key informants in the UK (faculty members in innovative medical schools). I am using a discourse analysis approach for the interpretation the data as co-constructed accounts and I also locate myself as a social scientist and artist in a medical education.
- Results:** Participants discussed the value of the arts and literature in relation to learning about individuals and community, improving communications with individual patients and community as a whole, as well as being reflexive about their own assumptions and emotions. They emphasized that engaging in or appreciating the arts and literature are important to their own well-being. Moreover, they view medicine as both an art and a science. They underlined the challenges they encounter in attempting to live as a holistic and well-rounded medical student or faculty/health practitioner.
- Conclusion:** Participants felt that engagement with creativity and the arts and literature contribute to humanize medicine and, interestingly, to promote and sustain Newfoundland and Labrador's culture and identity. For participants in my study, creativity, arts and literature are not a luxury but, instead, key to the healing of patients, health practitioners and communities.
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EVALUATION OF IN-TRAINING EVALUATION REPORTS (ITERS) IN ANESTHESIA EDUCATION

Sherry Jin, *Discipline of Anesthesia*; Heidi Coombs-Thorne, *Medical Education Scholarship Centre*;
Lesley Bautista, Steven Howells, Michael Bautista, *Discipline of Anesthesia*

ABSTRACT: Oral Presentation

- Purpose:** Postgraduate medical education requires assessment tools that facilitate the delivery of frequent and effective feedback to trainees. In the Anesthesia residency program at Memorial University, in-training evaluation reports (ITERS) are currently administered on a daily basis. This project examines the effectiveness of these ITERS in providing feedback for residents.
- Methods:** This project involved a mixed-methods approach to evaluating Anesthesia ITERS. We gathered quantitative and qualitative data through administration of a survey to Anesthesia faculty (37) and residents (20) at Memorial University.
- Results:** We received 23 responses to the survey, with a response rate = 40.4%. Results show that 41.7% of faculty are dissatisfied with the current ITERS. No residents are dissatisfied, but 63.6% are neither satisfied nor dissatisfied. 66.7% of faculty are not comfortable providing negative feedback or constructive criticism to residents. And 58.3% of faculty and 27.3% of residents do not feel ITERS accurately reflect resident performance. In addition, residents and faculty have differing opinions about the effectiveness of ITERS as assessment/feedback tools for residents. For example, fewer residents (54.5%) than faculty (83.3%) feel that faculty are comfortable providing positive feedback to residents; and fewer faculty (25%) than residents (63.6%) feel that ITERS encourage residents to reflect.
- Conclusion:** Based on a comparison of faculty and resident responses to the survey, faculty appear to have formed stronger and more critical opinions of ITERS and their effectiveness in providing feedback; whereas residents are generally more neutral in their responses. Neither group appear overly positive in their assessment of the current ITERS. Based on this survey's results, the current ITERS used in Anesthesia education at Memorial University are being revised to make it easier for faculty to provide constructive feedback and to more accurately reflect observed resident performance.

CONTINUING PROFESSIONAL DEVELOPMENT (CPD) AND SELF-DIRECTED LEARNING (SDL) IN A DIGITAL AGE: IMPLICATIONS FOR HEALTH PROFESSIONALS AND CPD PROVIDERS

Vernon Curran, Lisa Fleet, Karla Simmons, *Office of Professional Development*; Diana Gustafson, Karine Bernard, Lauren Rickert, *Community Health and Humanities*; Lauren Matthews, *Faculty of Science*;
Lyle Wetsch, *Faculty of Business Administration*

ABSTRACT: Oral Presentation

- Purpose:** Self-directed learning (SDL) activities are a recognized type of informal adult learning across many CPD systems. The expansive growth of digital, social, and mobile technologies (DSMTs) has created new opportunities for connecting with information and colleagues. As CPD providers, how these technologies are being used has important implications for supporting the SDL of health professional learners.
- Methods:** Scoping review.
- Results:** Approximately N=420 articles reviewed. Majority reflect commentaries and focus mainly on satisfaction evaluative outcomes, yet several key themes are emerging from the literature. Uses of DSMTs include Twitter, Facebook, and YouTube. Benefits/successes of best practices include: improved access to information, especially at the point of care; increased opportunity for collaboration and communication; and potential for enhanced knowledge acquisition and learning. Key considerations for use include: cost, technical issues, and access to technology; variability on the quality and accuracy of information; and privacy and professionalism.
- Conclusion:** There are limited models describing the SDL habits of adult learners in a digital age and there is limited evidence surrounding the use of social media and mobile technologies in mandatory CPD delivery systems. The CPD field is at an early stage of exploring the purpose and role of DSMTs in lifelong learning pursuits. Early evidence suggests health professional learners find DSMTs useful in accessing and sharing information. Particular issues surrounding information credibility and digital professionalism arise with greater usage of these technologies in practice, and further evaluation of the effect of DSMTs on learning outcomes, performance improvement and impact on health outcomes is warranted.
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DEVELOPING A RESEARCH EDUCATION CURRICULUM FOR RURAL DOCTORS: TRIALS, TEACHINGS AND TESTAMENTS

Shabnam Asghari, Thomas Heeley, Cheri Bethune, Wendy Graham, Patti McCarthy, Marshall Godwin,
Discipline of Family Medicine

ABSTRACT: Oral Presentation

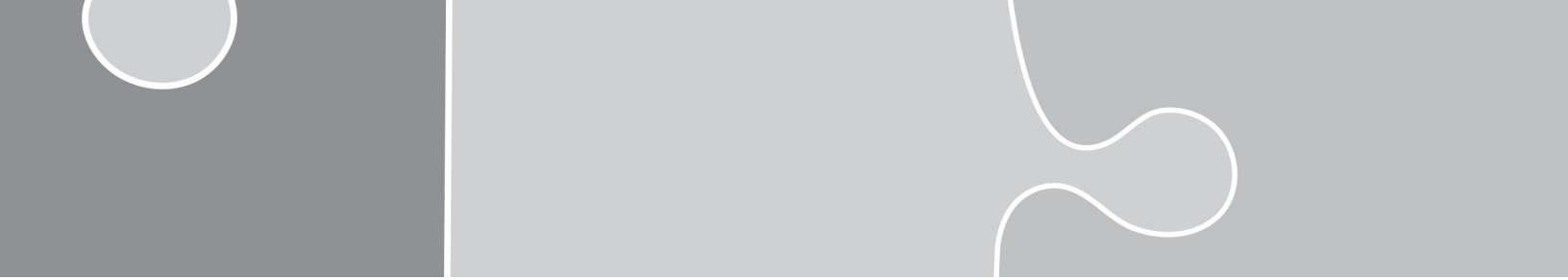
- Purpose:** Barriers like professional and geographical isolation prevent rural physicians, the most knowledgeable and experienced players in rural medicine, from conducting research. The Discipline of Family Medicine has responded to these barriers with *6for6*, a tailored six session curriculum that provides Memorial-affiliated rural physicians with the expert training, support and mentorship to challenge their research barriers and embark on a research agenda. Here we will present barriers and enablers to developing a research education program for remote physicians, underscore key successes from a three-year curriculum pilot and highlight important lessons for anyone interested in pursuing a similar initiative.
- Methods:** Needs assessment to identify skills and services needed by rural physicians to engage in research and curriculum development using the Kern 6-step curriculum development approach.
- Results:** The *6for6* curriculum has been piloted for 3 years and evaluated with pre-and post-program and pre-and post-session surveys measuring self-reported knowledge, attitudes and beliefs regarding research topics covered in the training sessions. Paired samples t-tests found significant improvements from pre- to post-test for knowledge (Mean difference = 3.375, $p < .003$) and attitudes (Mean difference = 0.5, $p < .033$). Participants report that *6for6* is rurally relevant, supportive and has improved their research skills. Participants are producing tangible research scholarship, including grant proposals, journal articles and academic posters).
- Conclusion:** *6for6* is catalyzing a culture of research in rural areas of Canada, empowering rural physicians to develop rural solutions for rural problems. The program continues to evolve and improve as evaluation data is used to fine tune the curriculum.

AN EXPLORATORY STUDY OF REGIONAL AND COMMUNITY BEST PRACTICES FOR FACILITATING PHYSICIAN WORK/LIFE BALANCE IN NEWFOUNDLAND AND LABRADOR (NL)

Lisa Fleet, Karla Simmons, *Office of Professional Development*; Tracey Bridger, Discipline of Pediatrics; Lynn Barter, *Newfoundland and Labrador Medical Association (NLMA)*

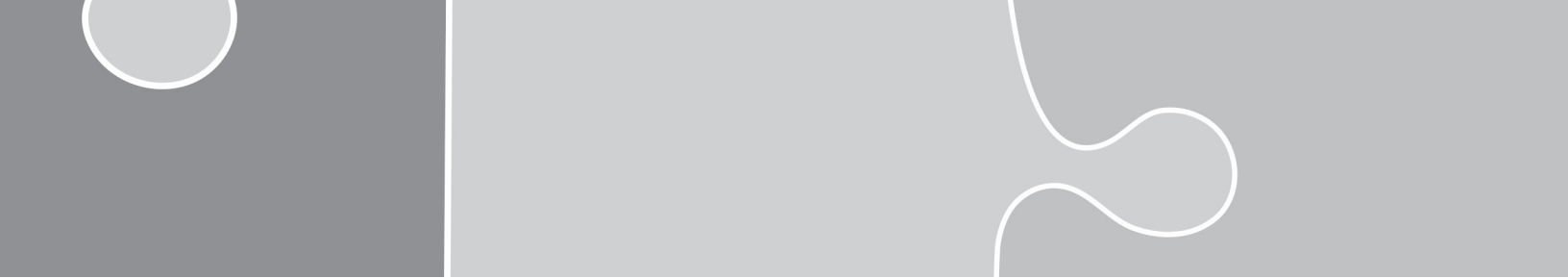
ABSTRACT: Oral Presentation

- Purpose:** Burnout and stress, among other issues, can be associated with a physician's ability to achieve a healthy work/life balance. The findings of recent studies suggest a need for strategies, initiatives, and/or policies for helping physicians of all ages achieve a healthier work/life balance, yet there is a dearth of information available on any existing regional, hospital/departmental, or community initiatives in NL. The purpose of this study is to identify and explore existing best practices, utilizing findings to draft a framework for a provincial physician work/life balance initiative.
- Methods:** Literature review/environmental scan; online survey-questionnaire; semi-structured interviews.
- Results:** Seventy (N=70) studies were reviewed, focusing on physician health interventions/ programs and/or personal strategies to support resiliency. There were N=306 survey respondents (57.2% specialists; 42.8% family physicians). Forty-four percent (43.9%) report feeling like they have not achieved work/life balance; 14.4% report they don't know. Gender and speciality increase this percentage, with 51.3% of female physicians feeling like they have not achieved work/life balance; 47.7% of specialists. Influential barriers reported by all respondents were increasing system and patient expectations, family demands, and lack of organizational culture and policies which support work/life balance. Respondents report individual strategies for maintaining work/life balance, such as taking vacations (82.2%), hobbies (71.8%), controlling their schedules (64.8%), and exercising (63.5%). Respondents also report the existence of some flexible and supportive work environments at the group practice/ departmental level, but less so at the institutional/RHA level.
- Conclusion:** Respondents report a need for a workplace culture and policies which support physician health and work/life balance. However, data suggests that defining what balance means and achieving it depends on the perspectives of individual physicians. Control and/or flexibility of scheduling, including the desire and ability to make choices, were reported as some of the influential enablers to achieving this status. The self-reported ability to achieve work/life balance is also seemingly influenced by gender and speciality, the latter of whom mainly practice within an institutional/RHA environment.



NOTES

Lined writing area consisting of 25 horizontal lines for notes.



NOTES

A series of horizontal lines for taking notes, organized into two columns. Each column contains 14 lines, for a total of 28 lines.

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