MEMORIAL UNIVERSITY

Faculty of Medicine

MEDICAL EDUCATION SCHOLARSHIP FORUM

December 1, 2015
Medical Education Centre
Main Foyer

PROGRAM

MESSAGE FROM THE DEAN

Welcome to the third Medical Education Scholarship Forum. This forum is an important and significant event in the advancement of scholarship in the Faculty of Medicine. As our mission states, research, education, and collaboration are all essential parts of what we do and who we are. The activities today will provide the opportunity for you to network with colleagues and to discuss innovation and advancements in medical education.

This year's forum covers many topics and one in particular that is of great importance: simulation. Simulation is something that has become essential for educating our medical students and residents and for providing continuing medical training to practicing physicians throughout Newfoundland and Labrador. It's through this teaching method that we are able to help increase patient safety within our health-care system.

Here in the Medical Education Centre is the Clinical Learning and Simulation Centre. This new state-of-the-art learning space combines the Standardized Patient Program, the High Fidelity Simulation Unit and the Surgical Skills Unit. It is here where we can provide a risk-free learning, teaching and research environment for learners and faculty that simulates real-life health care situations in the most resource efficient and effective manner. I'm sure you look forward to hearing about the scholarly work that is being done with this innovative way of teaching our current physicians and our doctors of tomorrow.

This forum has been organized by our Medical Education Scholarship Centre (MESC), established just over five years ago. What a lot of excellent work MESC continues to do, providing support for faculty, residents, students, and staff to get involved in undertaking their own educational research. MESC also has wide-ranging responsibilities including student and resident assessment, teaching development, and program evaluation. All these activities facilitate the enhancement of the culture of quality medical education and learning in our Faculty of Medicine.

Together we are building a healthy tomorrow for Newfoundland and Labrador and beyond. This education forum provides the opportunity to learn what your colleagues are doing. Take the time to listen and engage in discussions with other members of the Faculty of Medicine. I wish you the best in your scholarly endeavours and look forward to many more forums in the years to come.

THE MEDICAL EDUCATION SCHOLARSHIP CENTRE

The Medical Education Scholarship Centre (MESC) is a dedicated support unit for medical education practice and scholarship. Its purpose is to foster reflective practice, research, and development in medical education over the continuum of lifelong learning but with a focus on undergraduate, graduate, and postgraduate 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.

PLENARY SPEAKER

EVERYTHING I NEEDED TO KNOW ABOUT TEACHING, I LEARNED FROM CLIMBING MOUNTAINS

DR. TA LOEFFLER brings 25 years of expertise leading people through significant life-changing experiences to every facet of her work. Her work and adventures have taken her to 42 different countries and all seven continents. TA has completed 6 and 4/5 of "The Seven Summits," the highest peak on all seven continents. In 2015, TA was named to the "Canada's Greatest Explorers 100 Modern-Day Trailblazers List" by Canadian Geographic. As a Professor of Outdoor Recreation at Memorial University of Newfoundland, TA has developed a reputation for excellence in experiential education because her students are more likely to be outside chasing icebergs than sitting in a classroom. TA is the Chair in Teaching and Learning for the School of Human Kinetics and Recreation.

TA has received international and national recognition for her innovative teaching and community engagement. In 2015, TA was selected to the Canadian Geographic "Canada's Greatest Explorers: 100 of the Nation's Top Modern-Day Trailblazers List". In 2013, TA was awarded a Queen Elizabeth II Diamond Jubilee Medal for her contributions to her community and was named a Fellow of The Royal Canadian Geographical Society. In 2008, TA was awarded a prestigious 3M National Teaching Fellowship, was named as the Minnesota State University "2008 Distinguished Alumnus" in the Humanitarian category and received the Memorial University of Newfoundland Faculty/Staff Volunteer of the Year Award. As well, the Canadian Association for the Advancement of Women in Sport named TA to their 2006 Top Twenty Most Influential Women in Canadian Sport and Physical Activity List. Finally, TA received the Memorial University of Newfoundland President's Award for Distinguished Teaching in 2005.

TA inspires hope, possibility, and vision in those whose lives she touches. Over the past ten years, TA has shared her message of "Big Dreams, Big Goals" with over 75,000 youth in the province of Newfoundland and Labrador.

Medical Education Scholarship Centre Forum
December 1, 2015
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8:00 - 8:30	Registration and Coffee
8:30 - 8:45	Welcome, Dr. James Rourke, Dean of Medicine
8:45 - 9:45	Opening Speaker *Everything I Needed To Know About Teaching, I Learned From Climbing Mountains* **Dr. TA Loeffler**
9:45 - 10:30	10-Minute Presentations
10:30 - 10:45	Break
10:45 - 11:45	Facilitated Posters
11:45 - 12:30	3-Minute Presentations
12:30 - 1:00	Lunch
1:00 - 2:30	Workshops
2:30 - 2:45	Break
2:45 - 4:00	10-Minute Presentations
4:00 - 4:15	Closing Remarks - Dr. Sharon Peters

ORAL PRESENTATIONS (10–MINUTE FORMAT)

Moderator: Gerona McGrath

9:45 - 10:30

Time	Presenter	Title
9:45	Iain Robbé	Student Engagement in the Medical School: An Oxymoron or a Zeitgeist?
10:00	Lyn Power, Christa Lewis	Progression to Postgrad: Memorial University of Newfoundland's Twist on the Longitudinal Integrated Clerkship Experience
10:15	Adam Reid	Development and Use of Assessment Rubrics for Interprofessional Education at Memorial

FACILITATED POSTER SESSIONS

10:45 - 11:45

Moderator: Heidi Coombs-Thorne

Presenter	Poster	Title
Janet Bartlett	1A	Medical Student Distress, Personal Health Care Practices, and Barriers to Care
Wanda Parsons	1B	Do Scores on the New Psychological, Social and Biological Foundations of Behavior (PSBB) Section of MCAT 2015 Predict Medical Students' Academic Performance in Behavioral and Social Sciences (BSS) Courses?
Carolyn Sturge Sparkes	1C	Offering Pre-Admission Pathway Programs for Aboriginal Youth: What Benefits is the Faculty of Medicine Really Reaping?
Norah Duggan	1D	Memorial University's Learners and Locations Project: A Community Update
Maria Mathews	1E	2014 Work Locations of Memorial Graduates: Where Are the Family Doctors?
Pauline Duke	1F	Extending MUN Med Gateway's Reach: Community Projects to Promote Wellness

Victor Maddalena	1G	Physician Leadership Certificate: Leadership Training for Medical Students at Memorial University of Newfoundland
Matthew Young	1H	Clinical Exposure to the RCPSC Acute Care "Problem List" in a Small, Tertiary Care Pediatric Hospital
Chantae Garland	1I	Clinical Exposure to the Principles of Transport during Residency at a Small, Tertiary Care Pediatric Hospital with a Large Geographic Catchment Area

Moderator: Steve Pennell

Presenter	Poster	Title
Jeremy Pridham	2A	The Feasibility of an Integrated Anesthesia-Surgery Clerkship Rotation as a Learning Experience for Perioperative Care
Diana Deacon	2B	The Use of Entrustable Professional Activities in Memorial University's Phase 4 (Clerkship) Curriculum
Catherine Hickey	2C	Teaching Advocacy to Junior Psychiatry Residents
Holly Black	2D	An Undergraduate Point of Care Ultrasound Curriculum: A Case Study in the Development of an Objective Assessment Tool Using a Modified Delphi Technique
Neil Hamilton	2E	Point of Care Ultrasound: The Height of the Column of Fluid in the Internal Jugular Vein as a Measure of Jugular Venous Pressure
Adam Reid	2F	Reactions, Knowledge/Skill/Attitude Changes, and Collaboration Challenges of Medicine Students in the Interprofessional Practice-Based Learning (IPPL) Program
Jennifer O'Dea	2G	Implementation of an Interprofessional Education (IPE) Module for Pediatrics Residents: Development of the CanMEDS Collaborator Role for Complex Medical Patients

Bill Eaton	2H	Using Video Learning Tools to Increase Student Confidence and Satisfaction in Clinical Interviews: A Program Evaluation
Tamer Abdel Moaein	2I	National Survey of Mobile Learning in Canadian Pediatric Residency

Moderator: Steve Shorlin

Presenter	Poster	Title
Tia Renouf	3A	Simulation for Teaching Communication and Leadership Skills
Noel O'Regan	3B	Evaluative Simulation: An Innovative Approach to Summative Assessment in an Anesthesia Residency Program
Desmond Whalen	3C	Student Based Research in Medical Simulation: Extending CanMEDS Beyond the Undergraduate Medical Curriculum
Michael Parsons	3D	Mobile Simulation Lab With Acute Care Tele-medicine Support
Tia Renouf	3E	Island-based Research: Obstacle or Opportunity?
Michael Parsons	3F	Development of an Emergency Medicine Simulation Book to Facilitate Use of Simulation Based Medical Education in our Curriculum
Joshua Gould	3G	Resident-Driven Peer Simulation Curriculum
Michael Parsons	3H	Low Fidelity Simulation for Remote and Low-Resourced Settings: A Bougie-Assisted Crichothyroidotomy Model
Tia Renouf	3I	Emergency Doctors Think in Spirals

ORAL PRESENTATIONS (3-MINUTE FORMAT)

11:45 - 12:30

Moderator: Donnamarie Khalili

Presenter	Title
Diana L. Gustafson	What are Faculty Members' Expectations for Writing Competence in Medical Students?
Catherine Hickey	Design, Implementation and Evaluation of a Blended Intensive Short-term Dynamic Psychotherapy Course.
Tia Renouf	An Examination of Communication Barriers Between Rural Family Physicians and Urban Consultants in Newfoundland and Labrador
Victoria Law	NL Physicians' Intentions to Recommend the HPV Vaccine to Male Youth – In Progress
Lisa Fleet	Recognition and Elimination of the Stigma Associated with Aging among Canadian Physicians – Preliminary Findings

WORKSHOPS

1:00 - 2:30

Facilitator	Title	Location
Noel O'Regan	The Use of Physiologic Story Boards as Tools for Scenario Development and Live Scenario Direction	2M240
Team of co-authours	Addressing the Elephants in the Interprofessional Room: Memorial University's Model	2M218
Steve Shorlin	Delivering Feedback: More than Just a Sandwich	1M102

ORAL PRESENTATIONS (10-MINUTE FORMAT)

2:45 - 4:00

Moderator: Robert Glynn

Time	Presenter	Title
2:45	Amanda Pendergast, Susan Avery	How Can We Engage Learners in a Geographically Dispersed Residency Program? Evaluating Small Online Learning Groups (SOLG) as One Possible Solution
3:00	Sabrina Alani	Perspectives of the Postgraduate Medical Education Environment Within the Faculty of Medicine at Memorial University
3:15	Lisa Fleet	Effective Communication with Patients, Families & Colleagues: Evaluation of an Online Program for International Medical Graduates (IMGs) in Newfoundland and Labrador (NL)
3:30	Adam Dubrowski	Cognitive Load and Simulated Critical Medical Skills Performance on Stationary and Moving Platforms
3:45	Lisa Fleet	A Phenomenological Study of the Self-Directed Learning Habits of Rural Physicians in a Digital Age

LIST OF ABSTRACTS
ORAL PRESENTATIONS (10-MINUTE FORMAT)

STUDENT ENGAGEMENT IN THE MEDICAL SCHOOL: AN OXYMORON OR A ZEITGEIST?

Iain Robbé, Division of Community Health and Humanities; Elizabeth Faour, MD Student

Purpose: Momentum has grown in Canada, United Kingdom and elsewhere in support of student engagement in the medical school in order to improve motivation, the curriculum, the learning environment, and active citizenship (Zepke & Leach, 2010). Standards of excellence in student engagement have been developed by the ASPIRE project www.aspire-to-excellence.org. These standards require that student engagement occurs in four areas (1) management (structures and processes) (2) programs for education and (3) research (4) local community and service delivery. The process of preparing an application to the ASPIRE project for excellence in student engagement in the Faculty of Medicine revealed that student engagement was closer to an oxymoron than a zeitgeist. **Methods:** The application process involved listening to faculty, staff and students responding to the criteria in the application, reading background papers, minutes of committee meetings, policies, strategies and operational plans, et alia, and iteratively discussing drafts of the application with the Executive of the Medical Students Society (n=28). Results: Examples of student engagement in the four ASPIRE areas were identified but there were mismatches between the faculty/staff perceptions of engagement and student perceptions. There were inconsistencies in approaches to engagement within the areas, for example, the lack of response from 12 out of 36 key faculty informants. Most communications from the Faculty to the students were impersonal and there was no well-recognized, central location for communications. Policies, strategies and procedures were frequently issued without consultation and the voices of student representatives were often not taken seriously when consultations did occur despite the efforts of some individual faculty. There was a lack of transparency about sharing information and about the rationale for decisions to make changes. Some committees that included students only met once per term and some ad hoc committees did not include students. **Conclusions:** The current zeitgeist in the Faculty favours student engagement. However the concepts are misunderstood and the practices indicate student engagement is an oxymoron currently. Consistent with other research (Trowler & Trowler, 2010; Bryson, 2010) factors can be identified at the levels of the culture, society, environment and their interactions that impede effective student engagement. **Disclosure Statements:** IJR was the lead author drafting the application for the award of excellence in student engagement. EF was President of the Medical Students Society (MSS) and the MSS Executive Committee chair for the academic year of 2014/2015.

PROGRESSION TO POSTGRAD: MEMORIAL UNIVERSITY OF NEWFOUNDLAND'S TWIST ON THE LONGITUDINAL INTEGRATED CLERKSHIP EXPERIENCE

Lyn Power, Discipline of Family Medicine; Christa Lewis, MD Student; Donnamarie Khalili, Medical Education Scholarship Centre

Background: Longitudinal Integration Clerkship (LIC) has become an integral part of undergraduate medical learning. Memorial University of Newfoundland (MUN) has expanded on the foundations of LIC to incorporate both CanMEDS competencies and the Undergraduate Medical Education (UGME) objectives. This created a selective clerkship rotation known as Progression to Postgrad (P2P). **Objectives:** Students select P2P as a 12 week rotation focused on patient and community based medicine. Students gain exposure to longitudinal experiences in the management of multiple co-morbidities among all age groups. Students receive an enriched experience as they transition from clerkship to residency. **Methods:** P2P began as a pilot study where students chose the P2P selective once they completed their core clerkship courses. In the pilot, three participants were placed in two sites. Students were immersed in both core and non-core disciplines. They also learned continuity of care because they could follow a patient from community, through treatment, and back to the community. **Results:** P2P yielded positive feedback from participants. Students reported that the amount of clinical exposure to community and patient based medicine, as well as working with various health professionals were definite strengths of P2P. Students also identified template scheduling and transportation support as areas that P2P could improve. **Conclusion:** With the success of P2P, the Faculty of Medicine has been able to make P2P a competitive selective

for students. Three more sites have been created to accommodate more students. Currently there are five participants completing P2P while ten students are enrolled for next year.

DEVELOPMENT AND USE OF ASSESSMENT RUBRICS FOR INTERPROFESSIONAL EDUCATION AT MEMORIAL

Olga Heath, Adam Reid, Brenda Kirby, Centre for Collaborative Health Professional Education; Vernon Curran, Associate Dean of Educational Development; Diana Deacon, Medical Education Scholarship Centre; Chelsey Gagne, Sandra Parsons, Graduate Students, Department of Psychology

Purpose: Student assessment is an important part of the Interprofessional Education Skills Training (IPST) program, which includes students from the fields of medicine, nursing, pharmacy, social work, psychology and human kinetics and recreation. Demand was growing to provide more structured and comprehensive approaches to assessing student performance contributions beyond attendance records. In response, the Centre for Collaborative Health Professional Education (CCHPE) developed and piloted a series of assessment rubrics tailored to assess the quality of students' 1) active participation with IPE curriculum, 2) team presentation work, and 3) reflection assignments. **Methods:** Development of the three IPST assessment rubrics was informed by literature and best practices reviews. In an iterative process, draft rubrics were circulated for comment from experts in evaluation, assessment and IPE curriculum. Final rubrics were shared with students and used in IPST sessions to assess the quality of a) participation, b) projects (facilitator and student assessment), and c) reflection assignments. The use of the rubrics was evaluated with mixed-method feedback from facilitators. **Results:** In three IPE activities using the rubric, facilitators rated students' active participation as either good or excellent in between 95.4% and 100.0% of cases. Student team presentations and reflection assignments were also highly rated; where student teams also rated their peers using the same rubric, student ratings tended to exceed those of facilitators. In their feedback, facilitators described the rubrics as helpful and easy to use, with comfort levels increasing as they gained experience with students and the assessment process. Facilitators identified a shortage of time spent observing students and the inherent disadvantage for introverted students as factors that hinder valid and reliable assessments of active participation, and suggested that a professionalism dimension be added to the rubrics. **Conclusions:** The IPST rubrics have provided a greater level of transparency for the student assessment framework. The rubrics provide assessors a greater degree of objectivity and rigour and clearly communicate expectations to students participating in IPST. Feedback on the rubrics supported their clarity and utility. Challenges remain in consistently integrating rubric results into the assessment maps of participating programs, and training facilitators in their use.

HOW CAN WE ENGAGE LEARNERS IN A GEOGRAPHICALLY DISPERSED RESIDENCY PROGRAM? EVALUATING SMALL ONLINE LEARNING GROUPS (SOLG) AS ONE POSSIBLE SOLUTION

Amanda Pendergast, Susan Avery, Discipline of Family Medicine

Purpose: To evaluate an alternative approach to the traditional, large group academic half day (AHD) teaching sessions in a geographically dispersed residency program. Family medicine residents expressed dissatisfaction with the current format as they felt the sessions were not interactive, did not encourage critical thinking and there was no incentive to participate. An Ad Hoc committee was established to further explore the residents' learning needs and examine possible solutions. The decision was made to trial asynchronous, online learning groups. **Methods:** Family medicine residents were invited to participate in early 2015. A total of fourteen first and second year residents were recruited and divided into two online groups. An eight week curriculum was delivered over a ten week period which paralleled the content of traditional academic half day to maintain continuity and inclusiveness of the curriculum. The weekly discussions were based on content from McMaster University's Practice Based Learning Program Modules. The residents alternated as lead for the week in an effort to practice facilitation while collating and synthesizing the learning. A faculty member with online learning experience moderated each group, mentoring both resident leads and prospective faculty moderators. The program was evaluated using pre and post program surveys of the residents, weekly formative assessments, weekly narrative reflections, and focus groups of residents and faculty following completion of the program. **Results:** Focus groups are in progress, complete results will be available in the fall. Preliminary data reveals the residents enjoyed learning through cases, appreciated the resources and flexibility of the time commitment. Residents reported that the SOLG format was a more engaging, effective and interactive way of learning, especially for those at peripheral sites.

Additionally, residents would prefer more faculty involvement, which was also reported in reference to the traditional AHD, opposed to peer teaching. The resident's pre- and post-module knowledge and confidence in managing cases and skills increased significantly. **Conclusions:** The small online learning group model is an asynchronous learning environment that appears to be suitable for family medicine resident learners in a geographically dispersed residency program with varying commitments and schedules. Further studies should be considered to explore this option.

PERSPECTIVES OF THE POSTGRADUATE MEDICAL EDUCATION ENVIRONMENT WITHIN THE FACULTY OF MEDICINE AT MEMORIAL UNIVERSITY

C. Suzanne Drodge, Discipline of Oncology; Sabrina Alani, MD Student

Purpose: The medical environment (ME) is a perceived concept that exists within the context of the medical curriculum and a known determinant of trainee satisfaction, achievement and success. The perception of the ME continually evolves alongside changes within the curriculum and assessment. The aim of this project was to utilize a modified postgraduate Hospital Educational Environmental Measure (PHEEM) tool to provide a baseline assessment of the ME within postgraduate Faculty of Medicine at Memorial University of Newfoundland that will provide a benchmark comparison for longitudinal assessment. **Methods:** This project was approved by the interdisciplinary ethics committee at Memorial University. The PHEEM survey was adapted to match culture specific terminology and a web-based survey was emailed to participating residents. Survey results were interpreted using SPSS version 21.0 software; reporting means ± standard deviations. Alpha level significance was set at p values < 0.05 and survey tool reliability was assessed using Cronbach's alpha coefficient. Frequency analyses were reported on item and subscale means and group differences assessed by analysis of variance. **Results:** 32 surveys were completed equating to a 15% response rate. Cronbach's alpha was 0.952 for 40 statements indicating high internal consistency of the survey. The mean total PHEEM score was 101.95 ± 24.89 (range 48-145) with a maximum score of 160. There were no overall differences in subscale and individual scores when analyzed by sex, PGY level and service status. The mean subscale scores for Autonomy was 37.30 ± 8.04 (range 19-53) with a maximum score of 56, for Teaching 38.96 ± 10.21 (range 20-58) with a maximum score of 60, and for Social Support 26.03 ± 6.72 (range 9-37) with a maximum score of 44. **Conclusions:** The modified PHEEM survey is a simple, reliable and accepted tool that effectively highlighted areas of excellence and concern. The survey demonstrated high internal consistency, as seen in previous reports, and indicated a more positive ME than negative. The low response rate is a major limitation which may cause a non-response bias and limits the generalizability. Further efforts will be directed towards increasing the response rate through increased awareness, adjusting distribution methods, and feedback to resident programs.

EFFECTIVE COMMUNICATION WITH PATIENTS, FAMILIES & COLLEAGUES: EVALUATION OF AN ONLINE PROGRAM FOR INTERNATIONAL MEDICAL GRADUATES (IMGS) IN NEWFOUNDLAND AND LABRADOR (NL)

Lisa Fleet, Karla Simmons, Elizabeth Bannister, Professional Development & Conferencing Services

Purpose: Effective communication is an essential skill for all physicians. While such skills are often taught in Canadian universities, many International Medical Graduates (IMGs) often receive little or no specific training in this area. They may also face additional communication challenges as they assimilate into the NL cultural and medical environment. In July 2013, three online modules were launched to address some of IMGs' identified educational needs. This presentation will discuss the evaluation findings resulting from the delivery of these modules. **Methods:** A cohort observational study utilizing a logic model evaluation. In addition to standard module evaluation, data was collected six month's post-program from participants to explore the program's impact on their knowledge and skills. Evaluation data collected included: pre/post program confidence; pre/post module knowledge; post-module satisfaction; and six months' post-program outcomes. **Results:** There were N=406 registrants across 3 modules (not necessarily unique); n=176 evaluated at least one module. Survey respondents reported that the modules were relevant to practice (88.1%) and that the video scenarios provided effectively demonstrated knowledge and skills (93.7%). Significant increases were reported in pre-to-post knowledge for all three modules p=<.05 probability levels. Eight (n=8) respondents completed the outcomes evaluation component and reported making changes to their practices as a result of participation in the modules, reporting more attention to their respective communication styles and better listening skills. **Conclusions:** The role of communicator has

been identified as one of the CanMEDS framework physician core competencies, yet an IMG's training may not translate appropriately into North American culture. Effective communication is critical for optimal patient outcomes. This program will provide IMGs practicing in NL with the necessary knowledge and skills to communicate effectively with patients, families, and colleagues. **Disclosure Statement:** Health Canada supported the initial needs assessment on which the content developed for the modules was based, but there was no funding provided for the evaluation component.

COGNITIVE LOAD AND SIMULATED CRITICAL MEDICAL SKILLS PERFORMANCE ON STATIONARY AND MOVING PLATFORMS

Adam Dubrowski, Discipline of Emergency Medicine and Marine Institute; Tia Renouf, Andrew Smith, Sabrina Alani, Discipline of Emergency Medicine; Chris Hearn, Rob Brown, Marine Institute

Purpose: Offshore operations in the north Atlantic have increased significantly since the 1970s when oil and gas exploration began. Supply vessels are tasked with transporting industry goods and workers and also providing emergency medical care when required at sea. Critical injuries occurring offshore need prompt intervention in a range of environmental conditions, sometimes on moving platforms. The literature supports the utility of simulation for teaching medical procedures. It is a core part of the curriculum at Memorial University - a distributed campus with research initiatives supporting operations in the remote Arctic and marine environments. **Methods:** We compared self-assessed confidence and cognitive load as they relate to the performance of simulated complex medical procedures on stationary vs. moving platforms using a ship's bridge simulator. The aim of the simulation was for Transport Canada (TC) physicians - tasked with marine health assessments of ocean workers, to gain knowledge of the stresses under which their patients work at sea. In July 2014 at Memorial's Marine Institute, our pilot study compared TC physicians performing 4 procedures on both stationary and moving platforms: board and collar application, Thomas splint application, sutures and intra-osseous needles. Half performed the procedures in the stationary setting, and then crossed over to a moving platform. NASA cognitive load scales were applied to each group. **Results:** Participants reported being more cognitively challenged, as measured by the NASA scales, and demonstrated inferior technical performances on the moving platform. Increased broken needles and longer completion times were used as markers of poor technical performance. Transport Canada physicians reported increased cognitive load, and showed inferior outcomes, while performing critical procedures on a moving platform, compared with a stationary platform. **Conclusions:** TC physicians report increased cognitive load and inferior simulated procedural skills on stationary compared with moving platforms. Health care practitioners, who are expected to work in extreme environments, should train under contextually similar circumstances.

A PHENOMENOLOGICAL STUDY OF THE SELF-DIRECTED LEARNING HABITS OF RURAL PHYSICIANS IN A DIGITAL AGE

Vernon Curran, Associate Dean of Educational Development; Lisa Fleet, Karla Simmons, Professional Development & Conferencing Services; Mohamed Ravalia, Discipline of Family Medicine, Rural Medical Education Network; Pamela Snow, Discipline of Family Medicine, Professional Development & Conferencing Services

Purpose: Physicians need to develop life-long learning skills to stay abreast of ongoing advances in the medical sciences and to find solutions to everyday problems encountered in clinical practice. Self-directed learning (SDL) is one way in which physicians can plan, manage and evaluate their own learning, with or without the help of others. However, there are numerous barriers reported to SDL, including concerns with access to information and the ability to use systems effectively and efficiently to search and locate information relevant to one's needs. The latter is particularly important given the increasing use of digital, social media and mobile technologies by physicians. The purpose of this study is to explore the SDL experiences, habits, needs and perceptions of rural physicians in NL in a digital age. **Methods:** A phenomenological study encompassing semi-structured interviews with a purposive sample of rural physicians recruited from across regional health authorities in NL. Interview data was transcribed verbatim and analyzed using N-Vivo analytical software and thematic analysis. **Results:** Eleven (N=11) interviews have been completed and preliminary analysis suggests that respondents undertake SDL to obtain information regarding recent trials/research, to assist with challenging cases, or to respond to community needs. Interview respondents report depending on mainly digital technologies for SDL, such as various websites, apps, podcasts, online modules, and YouTube. A minority of respondents report using more traditional

methods of CME/CPD to meet their SDL needs, including attending conferences or participating in teleconferences or journal clubs. A majority of respondents report lack of time and access to required resources (i.e. internet) as barriers to managing their SDL. **Conclusions:** Few studies have explored the unique practice circumstances of rural physicians, their patterns and habits of SDL and the effect of barriers to SDL on feelings of professional isolation. The study findings have important implications for informing potential CPD programming to improve the SDL skills of physicians; informing education/training of medical students and postgraduate residents in SDL skills; informing regulatory/licensing practices around maintenance of competence; and informing professional support mechanisms for rural physicians. **Disclosure Statement:** Dean's Innovation Fund Spring Grants Program, Faculty of Medicine, Memorial University.

ORAL PRESENTATIONS (3-MINUTE FORMAT)

WHAT ARE FACULTY MEMBERS' EXPECTATIONS FOR WRITING COMPETENCE IN MEDICAL STUDENTS?

Diana L. Gustafson, Division of Community Health and Humanities

Purpose: The purpose of this presentation is to present key themes in the medical education literature about faculty members' expectations of the writing competence of medical students. Every year, talented and clever students from a variety of disciplinary backgrounds enter medical school and graduate programs in the Faculty of Medicine excited to begin another part of their academic and professional journeys. Some of these students struggle to communicate their ideas in writing in ways that faculty members expect. My observation is that remarkably few students are prepared for the rigour of academic writing. This observation is echoed by my colleagues during water cooler conversation. Scholarly writing is a skill like any other that must be learned and continually developed. To be successful in medical school and graduate programs, students must achieve a higher standard of writing competence than was previously expected of them. Studies show an established link between writing competency and degree/program completion rates and this is especially evident in professional schools such as medicine. **Methods:** The question driving the literature review was: What are faculty members' expectations of the writing competence of medical students? After consulting with a health sciences librarian, we identified and searched four subject-specific electronic databases most suited for our purposes: PubMed, CINAHL, ERIC and MLA. Search terms varied depending on the database but are grouped under three categories: writing competence, faculty perspective, and medical education. English language articles published in peer-reviewed journals in the last 20 years were included. An initial review of title and abstract established if the article was relevant for an in-depth review for key concepts, underlying theoretical and ideological presuppositions, main themes, and critiques or gaps. Content was organized thematically to address the question. **Results:** Very few journal articles address faculty perspectives on writing competence with very few focused on medical students or health sciences. Key themes will be listed. **Conclusions:** This literature review reveals the lack of attention to faculty members' expectations for writing competence among students in undergraduate and graduate programs in medicine. Data about the writing competence that faculty members expect is an essential piece of the puzzle that must also include understanding what students want and need and are motivated to achieve, and what role a Faculty of Medicine might play in supporting student writing competence and ultimately their programmatic success. **Disclosure Statement:** The study is funded by The Dr. Wallace Ingram Award.

DESIGN, IMPLEMENTATION AND EVALUATION OF A BLENDED INTENSIVE SHORT-TERM DYNAMIC PSYCHOTHERAPY COURSE

Catherine Hickey, Discipline of Psychiatry; Sean McAleer, Department of Medical Education, University of Dundee; Donnamarie Khalili, Medical Education Scholarship Centre

Purpose: There is a trend towards competency based education in Canada.The Royal College of Physicians and Surgeons of Canada has greatly enhanced and expanded the psychotherapy requirements for postgraduate psychiatry training programs to reflect this trend. However, training programs throughout the country are finding it difficult to meet these expanded requirements. A wide variety of psychotherapy modalities are covered and faculty are voicing concerns about

the time and expertise needed to meet the educational needs of learners. The objective of this study is to determine if online learning modules can be an effective mode of delivering competency based education in psychotherapy. **Methods:** A need analysis was performed to determine the learning needs and preferences of the psychiatry residents at Memorial University of Newfoundland. A blended course (consisting of traditional lectures, online modules and videotape review) was designed and developed based on these perceived needs. Lectures and modules were evaluated by means of pre-tests and post-tests to see if learning had occurred in each modality and between modalities. A learner satisfaction questionnaire was distributed with each online module. **Results:** Nineteen residents completed either an online module and/or a lecture. There was statistically significant learning in each individual online module and lecture group. There was no difference in learning between online modules and lectures. Overall, residents expressed satisfaction with the online learning module format. **Conclusions:** Online learning modules may enhance learner satisfaction in psychotherapy education. But there may be no difference in learning compared to traditional classroom-based lectures. The conclusion is that online modules can meet learners' preferences but may not result in more learning as measured by pre- and post-tests. However, the small sample of this study limits the generalizability of these findings.

AN EXAMINATION OF COMMUNICATION BARRIERS BETWEEN RURAL FAMILY PHYSICIANS AND URBAN CONSULTANTS IN NEWFOUNDLAND AND LABRADOR

Tia Renouf, Discipline of Emergency Medicine; Sabrina Alani, Desmond Whalen, Chris Harty, MD students; Heidi Coombs-Thorne, Medical Education Scholarship Centre; Adam Dubrowski, Discipline of Emergency Medicine, Discipline of Pediatrics, Marine Institute

Purpose: Communication is a core component of the Physician Competency Framework. Poor communication is a common cause of frustration and medical error. Communication between rural physicians and urban consultants is challenging because of the different contexts in which each physician operates and the often ambiguous sharing of professional responsibilities. Our purpose is to examine the barriers to effective communication between rural physicians and urban consultants in Newfoundland and Labrador (NL). **Methods:** In this mixed-methods study we distributed and collected open-ended and Likert-type questions using survey methodology, to rural and urban physicians in NL. Quantitative: Descriptive and comparative statistical analyses were computed using Microsoft Excel and MedCalc, respectively. Qualitative: Major themes associated with communication barriers identified by research team and using NVivo software. **Results:** Pilot data confirmed that both groups experienced communication difficulties; 23.1% rural and 27.8% urban rating the difficulties as frequent ($p=0.935$), 71.2% rural and 72.2% urban as sometimes ($p=0.825$) and only 5.8% rural and 0% urban acknowledged having never experienced communication difficulties ($p=0.714$). Overall, 87.1% of participants indicated that the communication difficulties impacted patient care and 59.7% identified a role for simulation in helping to solve communication barriers. 40% of participant's classified peer-to-peer role-playing as the preferred type of simulation for both rural and urban contexts. The primary thematic trends that emerged as barriers for the rural physicians were lack of time and understanding of rural site limitations. Conversely, the urban consultants expressed inadequate patient information and language skills as major barriers to effective communication with rural physicians. **Conclusions:** Communication barriers exist between rural physicians and urban consultants in NL. Simulation – role-playing in particular – addressing time constraints, contextual misunderstanding, clinical documentation and language deficiencies, may help to mitigate barriers to effective communication and to subsequently improve patient care. **Disclosure Statement:** Supported by a grant from the Dean's Innovation Fund.

NL PHYSICIANS' INTENTIONS TO RECOMMEND THE HPV VACCINE TO MALE YOUTH – IN PROGRESS

Victoria Law, Diana L. Gustafson, Division of Community Health and Humanities

Purpose: The purpose of this mixed methods research is to better understand physicians' intentions to recommend the vaccine for their young (9-18 year old) male patients in Newfoundland and Labrador (NL). In 2012, the National Advisory Committee on Immunization recommended expanding population-based programs beyond females and cervical cancer to reduce the burden of illness associated with other types of HPV-related cancers and to include males in vaccine coverage as part of "a thoughtful risk-based approach" to HPV infections. Some male youth are less likely to benefit from female-only population-based vaccination programs (currently in place in NL) and are at greater risk for anal, penile, head

and neck cancers in addition to genital warts. Previous research indicates that a physician's recommendation is a primary predictor for HPV vaccination. Family doctors, pediatricians, oncologists and gynecologists are the specialties best positioned to advise parents about the HPV vaccine for male youth and are the focus of this arm of the study. **Methods:** The HREB approved this research. Data will collected from family doctors, pediatricians, oncologists and gynecologists who are currently registered to practice in NL. The survey will be conducted online using Fluid Surveys software. Individual interviews will be conducted both in person and online. Survey results will be entered into SPSS and summarized using descriptive statistics. Interview data will be coded and analyzed thematically. The rates of recommendation and/or intention to recommend the HPV vaccine will be compared across the four regional health authorities. Data collection will be completed by November 1. **Results:** Preliminary findings about physicians' attitudes, knowledge and clinical practice relating to HPV vaccination will be presented. Possible predictive factors are physician age, gender, religious affiliation, years of practice and willingness to vaccinate their own sons and daughters. **Conclusions:** The evidence generated from this study intends to identify factors predicting the intention to recommend the HPV vaccine and potential opportunities for positively impacting physician attitude, knowledge and practice through undergraduate and post-graduate medical education. **Disclosure Statement:** The study is funded by a Janeway Foundation Research Award. The Newfoundland and Labrador Medical Association is one of our community partners.

RECOGNITION AND ELIMINATION OF THE STIGMA ASSOCIATED WITH AGING AMONG CANADIAN PHYSICIANS – PRELIMINARY FINDINGS

Lisa Fleet, Karla Simmons, Professional Development & Conferencing Services; Heather Stenerson, Andries Muller, Division of Continuing Medical Education, College of Medicine, University of Saskatchewan;

Purpose: Discrimination based on age, or 'ageism', has been identified in the literature, but lacking are studies focusing on its related stigma and impact on aging physicians' health, wellness, and commitment to their profession. **Methods:** National exploratory study, mixed-methods: (1) literature review; (2) key informant interviews (N=10 national stakeholder representatives); (3) consultation with Association of Faculties of Medicine of Canada committees (N=2); and (4) online survey (national representative sample, N=2000). Interview data analyzed using N-Vivo analytical software and thematic analysis. Survey data analyzed using IBM SPSS Statistics, descriptive statistics and one-Way ANOVA and/or Pearson chi square analyses. **Results:** Seven (N=7) interviews; N=80 surveys to date with follow-up in Sept. 2015. Preliminary analysis suggests older physicians are viewed as experienced individuals with specialized knowledge, caretakers of the system, and valuable teachers/mentors. However, stereotypes include resistance to change, challenged to keep up with clinical advances, and road-blocking the careers of younger physicians. Younger physicians are viewed as technologically savvy with significant knowledge in emerging issues, but stereotyped as lifestyle-focused and entitled. Interview respondents suggest having greater understanding of the needs of an aging population, promoting shared-care and mentorship models, and addressing the issues around mandatory call as strategies for promoting a positive intergenerational clinical environment. Survey respondents suggest capitalizing on the generational differences, flexible work schedules, and mentorship opportunities. **Conclusions:** Preliminary data suggests stereotypes related to younger and older physicians; however, these respondents also suggest strategies for capitalizing on these differences in ways which could enhance patient care. Continuing professional development can play a role in addressing some of these intergenerational differences. **Disclosure Statement:** Canadian Physician Health Institute Special Projects Fund.

POSTER PRESENTATIONS

POSTER BOARD 1

MEDICAL STUDENT DISTRESS, PERSONAL HEALTH CARE PRACTICES, AND BARRIERS TO CARE

Janet Bartlett, Division of Community Health & Humanities

Purpose: Medical students experience higher levels of psychological distress than age-matched peers. Suicide rates are also higher among medical students and physicians in comparison to the general population. Despite reported health needs, medical students are reluctant to seek help for mental health issues potentially resulting in inappropriate self-care practices and impairment. This trend increases throughout training and has been observed among physician populations manifesting as persistent, long-term mental health problems. Medical students report unique barriers to care which occur at individual, provider, and system levels and reflect issues related to stigma and the medical school culture or environment. The aim of the current study was to determine the prevalence of psychological distress among a population of medical students in comparison to the general population, ascertain factors contributing to the distress, explore personal health care needs and practices, and identify barriers to care. **Methods:** A cross-sectional design was employed which involved electronic and classroom administration of a survey. Participants included 181 medical students in years one through four attending a university in Atlantic Canada. **Results:** The prevalence of medical student distress in the current study was 17%. Medical students reported significantly higher levels of severe psychological distress than peers in the general population yet were reluctant to seek help for mental health issues. Students also expressed concern they may develop mental health issues and/or inappropriate self-care practices over the course of their training. Students indicated a preference for informal consultation and off-site care, citing system-based barriers including: concern for confidentiality, stigma, academic vulnerability and discomfort with the dual role of student-patient. Finally, students expressed reluctance to report impairment in a peer in scenarios depicting both high- and low-stigma consequences. **Conclusions:** Medical students experience levels of distress far exceeding rates among peers in the general population. Factors that contributed to this distress in the current study reflected some negative aspects of medical training and the socialization of medical students to deny or minimize illness, avoid seeking help through formal channels, particularly for stigmatizing health issues, and to develop inappropriate or harmful self-care practices.

DO SCORES ON THE NEW PSYCHOLOGICAL, SOCIAL AND BIOLOGICAL FOUNDATIONS OF BEHAVIOR (PSBB) SECTION OF MCAT 2015 PREDICT MEDICAL STUDENTS' ACADEMIC PERFORMANCE IN BEHAVIORAL AND SOCIAL SCIENCES (BSS) COURSES?

Wanda Parsons, Janet McHugh, Admissions Office;
Cynthia Searcy, Keith Dowd, Association of American Medical Colleges

Purpose: The Medical College Admissions Test (MCAT) changed in 2015 to reflect 21st century medical education, and one change was the addition of the new Psychological, Social and Biological Foundations of Behavior (PSBB) section which assesses knowledge that provides a foundation for learning in medical school about the behavioral and socio-cultural determinants of health and health outcomes. Memorial University in 2013-2014 participated in the PSBB validity study to learn how well PSBB scores predict students' academic performance in behavioral and social sciences (BSS) courses and clerkships. **Methods:** All first and second year medical students at Memorial University of Newfoundland were invited to take a prototype PSBB exam and short post-exam survey in fall 2013 and to give permission for their grades in courses that were conceptually related to PSBB content to be included in the study. **Results:** Eighty-one percent of first and 91% of second year medical students participated in the study. We compared prototype PSBB scores to performance in coursework related to BSS. Grades in psychiatry, and neuroscience blocks as well as a course on community health were predicted by prototype PSBB scores (corrected correlations equal .41, .33, and .40, respectively). **Conclusions:** Performance on the PSBB prototype predicted performance in coursework with BSS content. Prediction was

stronger for psychiatry and community health than neuroscience coursework, potentially due to the greater alignment of concepts between the PSBB section and related medical school coursework. Future research will evaluate the predictive validity of prototype PSBB scores with performance in psychiatry clerkships.

OFFERING PRE-ADMISSION PATHWAY PROGRAMS FOR ABORIGINAL YOUTH: WHAT BENEFITS IS THE FACULTY OF MEDICINE REALLY REAPING?

Carolyn Sturge Sparkes, Catherine Donovan, Division of Community Health and Humanities; David Lane, Graduate Student, Division of Community Health and Humanities; Michael Jong, Discipline of Family Medicine

Purpose: The Aboriginal Health Initiative has been in place at the MUN Faculty of Medicine since November 2008. The initial mandate of the initiative is to support Aboriginal youth for successful admittance into the undergraduate medical education program. To fulfill this mandate, various programs, namely, the Pre-Med Orientation Program, the Pre-Med Summer Institute, and the MCAT Prep Award have been implemented. As of fall 2015, through the Aboriginal Admissions Program co-developed with the Aboriginal Health Initiative Office, 20 Aboriginal students are now studying at MUN medical school. The purpose of this poster presentation is to show that the benefits enjoyed by the Faculty of Medicine are multi-dimensional exceeding well beyond the primary aim of the initiative. In striving for equitable inclusion of underserved populations, such as members of Aboriginal Peoples, research shows that medical schools, through investing in such programs, gain considerably more than meeting the requirements of an accreditation standard (Saha, Guiton, Wimmers, and Wilkerson, 2008; Whitla, Orfield, Silen, Teperow, Howard & Reede, 2003). In short, as an institution we are shaped by who we include, as much as by what we teach (World Health Report 2006). **Methods:** Quantitative and qualitative data are used to indicate that the various programs created within the Aboriginal Health Initiative are bearing fruit. Data is provided for both individual pathway programs and an aggregate of these programs. We also show that the benefits of offering such programs extend well beyond the fulfillment of an inclusion policy as reflected in narratives generated from a survey. Survey respondents are comprised of medical students and members of the Aboriginal communities. **Results:** The data identify a robust range of benefits accrued to the MUN Faculty of Medicine through the establishment of the Aboriginal Health Initiative as an equity program. **Conclusion:** The poster presentation highlights the overall contributions such programs make to the culture of the MUN Faculty of Medicine as an institute of learning.

MEMORIAL UNIVERSITY'S LEARNERS AND LOCATIONS PROJECT: A COMMUNITY UPDATE

James Rourke, Dean of Medicine; Kristin Harris Walsh, Learners and Locations project; Danielle O'Keefe, Discipline of Family Medicine; Mohamed Ravalia, Rural Medical Education Network; Scott Moffatt, Student Affairs; Wanda Parsons, Admissions; Katherine Stringer, Norah Duggan, Discipline of Family Medicine; Janelle Hippe, Learners and Locations project

Purpose: Memorial University's Faculty of Medicine's Learners and Locations database forms the basis of a longitudinal study that aims to develop a better understanding of medical students' backgrounds, educational placement locations and their relationship with eventual practice locations of graduates. Learners and Locations has provided critical data in examining the success of the Faculty of Medicine's undergraduate and postgraduate programs in populating rural areas of the Newfoundland and Labrador with rural/generalist physicians, in accordance with Memorial's social accountability mandate. **Methods:** Admissions, One45, Canadian Medical Directory and Statistics Canada population data from the Learners and Locations database was used for this study. SPSS was used to analyze statistics and ArcGIS was used to produce maps. **Results:** For graduating classes 2011-2018, 35.4% of those students with known backgrounds had predominantly rural backgrounds. For MUN Med graduating classes 2011-2017, 80% of Year 1 Community Health and Humanities placement weeks took place in rural communities or rural towns. For MUN Med graduating classes 2011-2016, 55% of Year 2 Family Medicine Community Placement weeks were spent in rural communities or rural towns. For MUN Med graduating classes 2011-2016, 95% of Year 3 Family Medicine Clerkship weeks were spent in small rural communities or small rural cities. For MUN Med graduating classes 2011-2014, 43% of MUN Med post-graduate Family Medicine Placement weeks were spent in small rural communities or small rural cities. As of January 2015, of all MUN Med Family Medicine graduates practicing in Atlantic Canada, 36% were practicing in rural locations. **Conclusions:** Data produced by the Learners and Locations database indicates that Memorial has been successful at recruiting students from rural

backgrounds; providing them with extensive rural placements during their undergraduate MD and postgraduate Family Medicine placements; and that this is resulting in increased physician practice locations in rural areas of the province. This correlates with external markers of success, such as Memorial's Faculty of Medicine receiving numerous SPRC Keith awards as well as AMEE's Aspire award.

2014 WORK LOCATIONS OF MEMORIAL GRADUATES: WHERE ARE THE FAMILY DOCTORS?

Maria Mathews, Dana Ryan, Division of Community Health & Humanities; Asoka Samarasena, Assistant Dean of Postgraduate Medical Education

Purpose: Due to continuing concern over physician shortages and poor retention, particularly in rural areas, closer examination into the migration patterns and practice locations of medical school graduates is warranted. This study updates information about the contribution of the Memorial University of Newfoundland (MUN) medical school to physician supply in Newfoundland and Labrador (NL) and in Canada. It will also describe any changes to the distribution of the physician workforce over time, and identify predictors of practice location. **Methods:** We linked data from graduating class lists, the alumni, and post-graduate databases with Scott's Medical database. Our sample included all MUN graduates from the class of 1973 to 2008, with the exclusion of those who had died, retired, those who were sponsored by the military or Malaysian government, and those whose 2014 practice locations were unknown. We then examined the 2014 work locations to identify the predictors of working in 1) Canada, 2) NL, 3) rural Canada, and 4) rural NL. We used chi-square analyses to identify the differences between each outcome and the predictor variables, and multiple logistic regression to identify significant ($p < 0.05$) predictors. **Results:** In 2014, 1647 (88.1%) of MUN graduates were working in Canada, 638 (34.2%) in NL, 217 (11.6%) in rural Canada, and 92 (4.9%) in rural NL. Graduates with rural backgrounds, Newfoundlanders, and 19080s-2000s graduates were more likely to work in Canada. Physicians with rural backgrounds, Newfoundlanders, 2000s graduates, and former MUN residents were more likely to work in NL. Graduates with rural backgrounds and family physicians were more likely to work in rural Canada. Lastly, physicians with rural backgrounds, Newfoundlanders, former MUN residents, and family physicians were more likely to work in rural NL. **Conclusions:** Although MUN graduates comprise a growing proportion of the NL physician workforce, they form only one-fifth of the rural physician workforce in NL (unchanged since 2004). The study highlights the downstream work location impacts of the changing characteristics of medical school graduates in NL, who increasingly opt for specialist practice and residency training outside the province.

EXTENDING MUN MED GATEWAY'S REACH: COMMUNITY PROJECTS TO PROMOTE WELLNESS

Pauline Duke, Discipline of Family Medicine; Jill Allison, Division of Community Health and Humanities; Kate Duff, Barb Albrechtsons, Janis Campbell, MUN Med Gateway; Arbbesa Dedinca, Kristina Roche, Victoria Ralph, MD Students

Purpose: Newfoundland and Labrador receives refugees from countries where conflict, political instability, disaster and trauma have been part of their migration story. This presentation describes how community engagement and student volunteer programs can align with health professional practices to support improved social well-being for refugees. The MUN Med Gateway project has supported access to Primary Care for refugees in St. John's since 2006. As a service learning opportunity pre-clerkship medical students participate in collecting medical histories from recently arrived newcomers and connecting them to family doctors in the community. The importance of socialization to health and wellbeing is well documented. As Lamba and Krahn note, refugees often lack the financial, social and human capital available to other immigrant groups and are more dependent on local support networks (2003: 336). Refugees often arrive in St. John's in small numbers ,leaving them without a "reference group or 'community' to connect them to the people, jobs, and resources" (Hyndman 2011: 27). **Methods:** MUN Med Gateway has partnered with local agencies to provide additional support to newcomers to St. John's. These include cooking projects with both men and women in collaboration with the Association for New Canadians Women's Group and Bridges to Hope. There is also a medical student led youth activities group that encourages physical activity and socialization. All these activities have been student initiated and community driven. The Association for New Canadians Women's Group and Men's Group identified needs for increased social opportunities for women, men and youth. Different opportunities were designed for each group and partner organizations were sought to provide resources and suitable, well equipped locations for the activities such as

kitchens and sports venues. **Results:** Through MUN Med Gateway initiatives students gain opportunities to develop and appreciate community partnerships; gain a deeper understanding of the challenges newcomers face; and participate in a service learning opportunity focused on social determinants of health. Refugee participants gain opportunities to socialize with others in the community; share cooking traditions; and develop stronger ties to community groups. **Conclusion:** MUN Med Gateway provides an opportunity for medical students to respond to needs identified within the refugee community and to develop partnerships that are creative and fulfilling.

PHYSICIAN LEADERSHIP CERTIFICATE: LEADERSHIP TRAINING FOR MEDICAL STUDENTS AT MEMORIAL UNIVERSITY OF NEWFOUNDLAND

Victor Maddalena, Division of Community Health and Humanities; Fran Kirby, Robert Glynn, Professional Development and Conferencing Services

Purpose: While physicians are expected to play an important leadership role in the health system, many physicians lack formal management and leadership training. The DRAFT CanMEDS 2015 Physician Competency Framework identifies seven principal roles: Medical Expert, Communicator, Collaborator, Leader, Health Advocate, Scholar, and Professional. **Methods:** In 2013 as part of the implementation of its new medical curriculum the Faculty of Medicine at Memorial University developed a new Physician Leadership Certificate (PLC) for the undergraduate medical education program. The PLC provides introductory level management and leadership training to enhance medical student's knowledge and skills to prepare them to be leaders in the health care environment. The PLC is comprised of an 8 module fully online program delivered over the 4 years of the MD program. The new medical curriculum at MUN is divided into four phases. The PLC offers 2 modules per phase. The PLC modules include: Introduction to leadership concepts; Structures and organization of the healthcare system; Strategic planning in health care; Project management for physicians; Media relations, Communications and social media; Program evaluation in healthcare settings; Human resources management; and, Case studies in Leadership. **Results:** The PLC has been well received by medical students. Pre and post confidence testing of content knowledge has been very positive. Ongoing quality improvement and feedback from students result in updating of course materials. **Conclusions:** The Physician Leadership Certificate has enabled the MUN undergraduate medicine program to provide a leadership and management curriculum to address the CanMEDS competency of Leader. **Disclosure Statement:** The Physician Leadership Certificate was funded internally by the Faculty of Medicine.

CLINICAL EXPOSURE TO PRINCIPLES OF TRANSPORT DURING RESIDENCY AT A SMALL, TERTIARY CARE PEDIATRIC HOSPITAL WITH A LARGE GEOGRAPHIC CATCHMENT AREA

Chantae Garland, Undergraduate Student, Behavioral Neuroscience; Matthew Young, MD Student; Kristina Krmpotic, Discipline of Pediatrics

Purpose: Over half of Newfoundland and Labrador's ~93,000 children reside in a rural setting.1 As a result, many children present acutely unwell to community hospitals where they require urgent interventions and stabilization prior to transfer to the Janeway Children's Health and Rehabilitation Centre. The Royal College of Physicians and Surgeons of Canada (RCPSC) requires that competent Pediatricians understand the principles, role and logistics of transport of acutely ill infants and children.2 However, little is known about residents' clinical exposure to critically ill patients requiring transport from referring hospitals. **Methods:** We used administrative data to identify all admissions to the Pediatric Intensive Care Unit between January 1 and December 31, 2014. Data were collected on patient age, diagnosis, geographic origin and outcome of admission. **Results:** A total of 154 patients had 184 admissions to PICU. After excluding post-operative, elective, and out-of-province admissions, 125 admissions of critically ill children remained. Approximately half (54.4%) were from St. John's and surrounding area. The remaining 57 admissions were transfers from the following regional health authorities: Eastern Health (22.4%), Western Health (9.6%), Central Health (8.0%), and Labrador-Grenfell (4.8%). The most common diagnoses of transported children were: respiratory distress/failure (42.1%), diabetic ketoacidosis (10.5%), and trauma (10.5%). There were no significant differences between children who required transport and those who did not with respect to age (5.8 years vs 7.3 years, p=0.08), intubation rates (28.1% vs 20.6%, p=0.16), PICU length of stay (5.7 days vs 6.1 days, p=0.44), and mortality (1.8% vs 0%, p=0.14). On average, transports for critically ill pediatric patients occurred once every 6 days, providing ample opportunity for residents to gain clinical exposure to principles of transport medicine.

Conclusions: Transport of acutely ill infants and children is required for nearly half of all unplanned admissions to PICU at a small, tertiary care pediatric hospital with a large geographic catchment area. The high rate of clinical exposure provides an excellent opportunity to teach residents the principles, role and logistics of transport medicine. **Disclosure Statement:** Ms. Garland and Mr. Young received Summer Undergraduate Research Awards from Memorial University of Newfoundland, 2015.

CLINICAL EXPOSURE TO THE RCPSC ACUTE CARE "PROBLEM LIST" IN A SMALL, TERTIARY CARE PEDIATRIC HOSPITAL

Matthew Young, MD Student; Chantae Garland, Undergraduate Student, Behavioral Neuroscience; Kristina Krmpotic, Discipline of Pediatrics

Purpose: To acquire the competencies required to function effectively as a medical expert in pediatric acute care, post-graduate medical education trainees in Pediatrics are required to spend a minimum of two to three one-month blocks in the Pediatric Intensive Care Unit (PICU) during their three years of core training.1 However, previous research suggests that the vast majority of Pediatric residents do not meet competency requirements for emergency and acute illness through direct patient care.2 The purpose of this study was to describe the volume and type of admissions to the PICU to determine residents' clinical exposure to pediatric acute care conditions. **Methods:** We used administrative records to conduct a retrospective observational study of all patients admitted to the PICU at Janeway Children's Health and Rehabilitation Centre between July 1, 2008 and June 30, 2015. Demographic information included age, admission diagnosis, duration of invasive ventilation, length of stay, and mortality. **Results:** There were 1149 admissions during the study period. Postoperative patients accounted for 27.2% of all admissions. Mean annual number of admissions were highest for respiratory distress/failure (38.6 cases/year), diabetic ketoacidosis (11.6 cases/year), seizures (9.9 cases/year), ingestions (6.9 cases/year), sepsis (4.3 cases/year), and traumatic brain injury (4.3 cases/year). **Conclusions:** Based on reported admission demographics over the past seven years, it is likely that Pediatric residents who complete four one-month blocks in PICU at a small, tertiary care pediatric hospital have adequate clinical exposure to respiratory failure, seizure/status epilepticus, diabetic ketoacidosis, sepsis, and multiple trauma/head injury. Other components of the curriculum need to compensate for potential deficiencies in clinical exposure to cardiorespiratory arrest, shock, coma, apparent life-threatening events, renal failure, hepatic failure, foreign body aspiration, electrolyte imbalances, burn management, and near drowning. **Disclosure Statement:** Mr. Young and Ms. Garland received Summer Undergraduate Research Awards from Memorial University of Newfoundland, 2015.

POSTER BOARD 2

THE FEASIBILITY OF AN INTEGRATED ANESTHESIA-SURGERY CLERKSHIP ROTATION AS A LEARNING EXPERIENCE FOR PERIOPERATIVE CARE

Jeremy Pridham, Barton Thiessen, Discipline of Anesthesia; Heidi Coombs-Thorne, Medical Education Scholarship Centre; Jenny Harris, Discipline of Anesthesia; Jacinta Reddigan, Faculty of Medicine

Background: The current literature on medical education suggests that integrated curricula can improve the learning outcomes of medical students. This research project involves the horizontal integration of anesthesia within the surgery clerkship rotation (3rd year) at Memorial University and tests the feasibility of an integrated rotation as a learning experience for perioperative care. **Method:** Twenty-five students participated in this project and were randomized into integrated (9) and non-integrated (16) groups. Student participation in the integrated group involved: 1) shadowing an anesthetist during a preoperative assessment; 2) attending the surgery; 3) assisting with delivery of the anesthetic; 4) accompanying the patient to the Recovery Room and learning about postoperative care; and, 5) following the patient's recovery on the floor. All students completed pre- and post-rotation surveys to assess their views on anesthesia, its role in the surgical process, and the integrated experience in general. The anesthetists and surgeons involved with the integrated rotation also completed post-rotation surveys to provide feedback on the feasibility of the rotation.

Results: Of those students who participated in the integrated group, 89% felt they had a better understanding of the work of an anesthetist after the rotation. Students appreciated the hands-on experience involved in the rotation and the opportunity to learn intubation, IV-placement, arterial line insertions, and ventilating the patient. Students gained a better understanding of the surgical patient and perioperative care through the integrated rotation. However, they also reported that the integrated experience was not long enough and they wanted more clinical anesthesia experience and structure. **Conclusions:** The integrated anesthesia-surgery clerkship rotation provided students with an introduction to anesthesia which they would not have received unless they did the separate anesthesia selective in their final year of study. Further research is planned to determine the best structure of an integrated anesthesia-surgery rotation at Memorial University.

THE USE OF ENTRUSTABLE PROFESSIONAL ACTIVITIES IN MEMORIAL UNIVERSITY'S PHASE 4 (CLERKSHIP) CURRICULUM

Katherine Stringer, Discipline of Family Medicine; Diana Deacon, Heidi Coombs-Thorne, Medical Education Scholarship Centre

Background: Entrustable Professional Activities (EPA) are tasks or responsibilities that learners are expected to perform without direct supervision once they have gained sufficient specific competence. The value of EPAs has recently been recognized by the Association of American Medical Colleges, which launched its landmark guide, "Core Entrustable Professional Activities for Entering Residency," in 2014. This document developed as a result of increasing concern among program directors in the United States that medical school graduates were not prepared for the responsibilities of residency. As part of its new spiral undergraduate medical education curriculum, Memorial University has used this new AAMC document to guide teaching and assessment in clerkship. **Discussion:** Each EPA was first mapped to the appropriate CanMEDS 2005 competency, on which the Memorial University Medical School's program objectives are based. Specific learning objectives were then linked to the appropriate EPA. Assessments of the EPAs are distributed throughout the 3rd and 4th years (Phase 4). This process was developed by the clerkship committee, with faculty and student representation. Assessment methods ensure acquisition of competencies within specific disciplines as well as longitudinal progression of competencies across disciplines throughout Phase 4. Progression is reviewed by the Phase 4 committee regularly during both 3rd and 4th years. Lack of progression of competencies represented by a lack of progress within any given EPA is addressed by designing specific learning plans to target those EPAs. Promotion from Phase 4 and hence graduation from medical school to enter residency is a decision made by the Phase 4 committee taking into account the above progression in each EPA. **Conclusions:** This process ensures adequate preparation for each graduating Memorial University medical student to enter a residency program.

TEACHING ADVOCACY TO JUNIOR PSYCHIATRY RESIDENTS

Catherine Hickey, Discipline of Psychiatry

Purpose: Advocacy, while central to the practice of psychiatry for decades, has been inconsistently evaluated in residents. Can a supervisor evaluate if a resident is an effective health advocate? Can advocacy be taught or is it simply an innate quality of the clinician? The purpose of this project was to formalize a method by which residents could engage in patient advocacy, thereby allowing faculty to evaluate them on this important competency. **Methods:** A twelve month pilot project was implemented in a community setting. The first phase was called the "Idea Generation Phase". Participants were encouraged to think of ideas which would improve the lives of patients. Ideas were written on index cards and presented on a bulletin board. Phase two was called the "Solution Generation Phase". Participants were asked to review all of the ideas and pick one advocacy idea that was meaningful to them. They were then asked to generate as many solutions to the issue as possible. The third phase was called the "Action Phase". Participants were asked to commit to a solution and to provide tangible results of this. **Results:** 7 residents participated in the study (n=7). Of these 7, 4 residents participated in the project. The three residents who did not participate in the project cited the following reasons: lack of time, objectives of project not clear and simply forgetting about the project. Of the 4 residents who completed the project, all residents identified unique needs of elderly patients and developed patient information pamphlets intended for distribution in the community. **Conclusions:** Advocacy is an important CanMEDS role. Supervisors often struggle with how to teach it to residents. Evaluation of advocacy also poses challenges. This pilot project developed a formalized

method to actively involve residents in advocating for elderly patients. Data is preliminary but promising. The conclusion is that advocacy can potentially be more formally taught and evaluated in junior residents.

AN UNDERGRADUATE POINT OF CARE ULTRASOUND CURRICULUM: A CASE STUDY IN THE DEVELOPMENT OF AN OBJECTIVE ASSESSMENT TOOL USING A MODIFIED DELPHI TECHNIQUE

Holly Black, MD Student; Gillian Sheppard, Brian Metcalfe, Jordan Stone-McLean, Discipline of Emergency Medicine; Heather McCarthy, MD Student; Adam Dubrowski, Discipline of Emergency Medicine, Discipline of Pediatrics, and Marine Institute

Purpose: Many medical schools across North America are incorporating point of care ultrasound training (PoCUS) into their curriculums. Memorial University of Newfoundland shares this enthusiasm for the introduction of PoCUS into its own undergraduate medical program. Like any newly introduced concept or skill, the addition of PoCUS in medical school curricula necessitates evaluation. The evaluation of medical students must include objective, reliable and validated assessment tools, as they are necessary to ensure a standard, general level of competence is attained. This project presents the approach necessary and difficulties encountered in creating and testing an objective assessment tool. **Method:** This project involved three phases, the first of which was the development of the tool itself. We used Blooms three domains of learning as the theoretical basis for the proposed approach to teaching PoCUS at an undergraduate level. Purposive sampling by key informants was used to select an expert panel appropriate for assessing PoCUS skills. A survey was distributed to these experts asking for their opinion on a "Point of Care Ultra Sound Assessment Tool" comprised of a global rating scale (GRS) and exam specific checklists. A modified Delphi technique was used to obtain expert consensus on items to be included in the assessment tool. The Delphi technique requires a panel of experts to complete several rounds of an opinion eliciting survey. **Results:** Agreement on the final tool for assessing ultrasound competency in undergraduate medicine was attained following three rounds of surveys. **Conclusion:** Using a modified Delphi technique we generated an objective assessment tool for undergraduate POCUS learners with content validity supported by the panel of expert PoCUS practitioners. Currently, in phase two of this research program, this tool is being testing to ensure it is a valid means of assessing PoCUS competency in undergraduate medical curricula. In a time when many medical schools are changing their curriculums to coincide with a changing national exam, this technique can be modified and used to create further objective assessment tools.

POINT OF CARE ULTRASOUND: THE HEIGHT OF THE COLUMN OF FLUID IN THE INTERNAL JUGULAR VEIN AS A MEASURE OF JUGULAR VENOUS PRESSURE

Neil Hamilton, Mayoorendra Ravichandiran, Andrew Smith, Discipline of Emergency Medicine

Introduction: Physicians use the jugular venous pressure (JVP) as a marker of volume status in a wide range of clinical conditions including congestive heart failure and renal failure. Unfortunately, the clinical assessment of JVP is highly subjective with significant variability even among experienced practitioners. Measurements of the JVP are recorded from the height of the pulsation of the internal jugular vein to the angle of Louis on the sternum with an additional 5 cm H_2O added to represent the distance to the right atrium. The height of the column of fluid above the sternal angle is said to remain constant independent of the angle of inclination. The purpose of this study is to determine if there is a significant difference in the height of the column of fluid of the internal jugular vein, as measured by ultrasound at 30, 45 and 60 degrees. **Methods:** The height of the column of fluid is measured by ultrasound on healthy subjects positioned at 3 different inclinations (30, 45, 60 degrees). These measurements are compared to each other using principles of the right triangle. The 2-ruler method is used to estimate the JVP. A one-way ANOVA is used to compare the results. The relationship between the height of the JVP and the cross sectional area (CSA) will also be studied. **Conclusions:** JVP measurement in the emergency department is difficult due to limitations in space and time. Determining a constant height of the column of fluid independent of position will improve clinical assessment of JVP in the emergency department. Ultrasound could provide these measurements, through direct visualization of the column of fluid.

REACTIONS, KNOWLEDGE/SKILL/ATTITUDE CHANGES, AND COLLABORATION CHALLENGES OF MEDICINE STUDENTS IN THE INTERPROFESSIONAL PRACTICE-BASED LEARNING (IPPL) PROGRAM

Adam Reid, Danielle Stennett, Centre for Collaborative Health Professional Education; Michelle Ryan, Department of Psychology; Olga Heath, Centre for Collaborative Health Professional Education; Hubert White, Jasbir Gill, Sarah Noble, Discipline of Psychiatry

Purpose: The Interprofessional Practice-based Learning (IPPL) program targeted medical clerks in their psychiatry clerkship rotation. The program's learning objectives include identification of interprofessional competencies, personal and professional challenges for Interprofessional Collaboration (IPC) in a practice setting. Before their rotation, clerks attended an IPPL workshop and received access to online IPC resources and an IPPL Student Guide. Clerks were also required to submit a Competency Reflection Journal (CRJ), about the IPC they observed during their rotation. The purpose of this poster is to present and discuss the evaluation results of the IPPL program. **Methods:** IPPL medicine clerks completed mixed-methods surveys at three intervals. Baseline surveys of IPC knowledge, skills and attitudes (KSAs) relating to patient safety and IPC was administered before and after clerks' psychiatry rotation ((pre-clerkship and post-clerkship). Another survey gathered feedback on the IPPL workshop content and format (post-workshop). Clerks' competency reflection journal responses were also reviewed, with commonly recurring themes identified, coded and summarized. **Results:** Clerks (N = 339) reacted positively to the IPPL curriculum, indicating a preference for face-to-face over online learning. After their IPPL rotation, clerks reported more positive attitudes toward collaborative care, rated their own collaboration skills as greater, and reported greater knowledge of IPC and patient safety. Clerks' CRJ responses contained a rich description of the observed enablers and barriers to IPC in practice and of the process by which clerks obtain IPC competencies during the clerkship phase. **Conclusions:** Evaluation of the IPPL program revealed several lessons about IPC learning in clerkship and other practice placements. The rotation experience itself had positive effects on clerks' IPC knowledge and attitudes; this IPPL intervention appears to have its effect on clerks' perceptions of their own IPC skills. The poster will also highlight how these evaluation results can inform approaches for future IPC curriculum development.

IMPLEMENTATION OF AN INTERPROFESSIONAL EDUCATION (IPE) MODULE FOR PEDIATRICS RESIDENTS: DEVELOPMENT OF THE CANMEDS COLLABORATOR ROLE FOR COMPLEX MEDICAL PATIENTS

Jennifer O'Dea, Discipline of Pediatrics; Vernon Curran, Associate Dean of Educational Development

Background: In pediatric practice there is an increasing number of children with chronic medical conditions. These children are often cared for by interprofessional health care teams. During pediatric residency, it is important that pediatric residents gain appropriate experience in both acute care and out-patient management strategies. However, opportunities for development of collaboration skills can be challenging. **Purpose:** To develop an interprofessional education (IPE) module for a pediatric resident academic half day. **Goals:** To promote curriculum development of the CanMEDS Collaborator role. To enhance interprofessional communication skills. To provide pediatric residents with better understanding of the roles of interprofessional team members in the care of complex medical patients. **Methods:** Focus groups were held with junior and senior pediatric residents to identify knowledge level regarding collaborative practice and learning needs. An IPE module was designed in collaboration with other interprofessional team members. Six (n=6) small-group learning stations were created and scripts formulated. Stations were designed to demonstrate typical medical problems requiring collaboration for complex medical children. Prior to the session a general lecture on care of complex medical patients was held. A one-group pre-post evaluation study design was employed. Pre and post questionnaire-surveys were administered to assess knowledge of roles of interprofessional team members. **Results:** Ten (n=10) residents participated in the teaching module with 8 completing pre and post surveys. Results demonstrated a gain in knowledge, particularly the roles of Social Work, Psychology and Nursing. 12.5% of residents identified Social Work's counselling role pre-module. Post module 100% of residents were aware. All residents felt that the half day met with the stated educational objectives and felt that they gained skills in complex patient care and collaboration with team members. **Conclusions:** Complex care is a growing area of pediatric medicine. Development of collaborative skills in residency is essential. The findings from this pilot evaluation study suggest that instructional model with small-group, interactive learning stations

may be an effective means for introducing pediatric residents to Collaborator competencies. Limitations of the module were small sample size and descriptive results. Further work may be directed at enhancing assessment opportunities of collaborator competency in our pediatric residency program.

USING VIDEO LEARNING TOOLS TO INCREASE STUDENT CONFIDENCE AND SATISFACTION IN CLINICAL INTERVIEWS: A PROGRAM EVALUATION

Bill Eaton, Vina Broderick, Discipline of Family Medicine; Donnamarie Khalili, Medical Education Scholarship Centre

Background: An important component to medical school teaching is preparing students for real life practice. As young medical students begin their studies, they learn how to conduct and observe medical interviews between patients and doctors. Students learn these skills in a number of different ways. **Objective:** To determine if standardize video learning tools increase confidence and satisfaction among medical students conducting interviews. **Methods:** In the beginning of first year, students viewed a video that demonstrated an ideal patient-centred video. Once students watched the video, they filled out a survey regarding the video contents. At the end of their first year, students were given a shortened video and another survey based on their learn experiences in first year. **Results:** The majority of students were very satisfied or satisfied on the topics of content 18.80%, organization 13.10 % and 16.5 % in the video. Between the initial and follow up surveys students' confidence increased by 7% ($p=0.2$) in receiving SP feedback and by 5.2 % ($p =0.13$) in conducting clinical interviews. The largest increase was the 36.9% ($p < 0.05$) in how confident students felt in their abilities to apply the skills demonstrated in the video. **Conclusion:** Using standardize video learning tools is an effective way to introduce patient centered medical interviews, as it helps to instill confidence in medical students conducting interviews.

NATIONAL SURVEY OF MOBILE LEARNING IN CANADIAN PEDIATRIC RESIDENCY

Tamer Abdel Moaein, Division of Newborn Medicine; Vernon Curran, Associate Dean of Educational Development; Adam Reid, Centre for Collaborative Health Professional Education

Purpose: Examine the attitudes, experiences and usage of mobile technology for learning by Canadian pediatric residents. **Methods:** A bilingual web based survey was distributed via email to program directors and residents of all Canadian pediatric residency training programs. Survey items were constructed based on a review of the literature and included: residents' use of mobile devices; residents' interest in mobile technologies as they apply to education; and perspectives towards a pediatric mobile learning platform. Study was approved by the Health Research Ethics Board (HREB) and the Canadian Pediatric Program Directors research group (CPPD-RG). **Results:** One hundred and thirty six residents (N=136) from all 17 programs and from all levels of training responded; a response rate of 19.84%. Majority of residents (97.6%) owned handheld devices with internet capabilities, and the second most common activity was accessing educational materials to learn about pediatrics (91.9%), after email services (98.4%). Seven main mobile applications were identified by the residents for pediatric learning (e.g., Up-to-date, Pedi-STAT, and Lexi-Comp), and 62.1% reported discontinuing mobile application use at some point with the most common reason being financially related (i.e. loss of free access). Majority of residents (85.4%) felt that a designated educational mobile application for pediatric residency would be helpful. **Conclusion:** Mobile learning is growing across many areas of higher education, and most residents already use some type of mobile-learning application. A designated and freely accessed mobile learning platform for pediatric residents that could be used as an asynchronous learning tool could enhance residents' learning experience and performance. In addition, it could act as a reliable tool to combine multiple resources.

POSTER BOARD 3

SIMULATION FOR TEACHING COMMUNICATION AND LEADERSHIP SKILLS

Tia Renouf, Discipline of Emergency Medicine; Holly Black, Desmond Whalen, Chris Harty, Sabrina Alani, MD Students; Adam Dubrowski, Discipline of Emergency Medicine, Discipline of Pediatrics, and Marine Institute

Background: Women are under-represented in academic leadership despite growing numbers of female medical students. Communication as a component of leadership is comprised of observable behaviours, teachable to both sexes using simulation. Polarity management uses breathing metaphorically to solve complex problems with non-binary solutions. Just as inspiration and expiration cycle together as equally important parts of breathing, traditional male and female communications are modifiable polarities in which simulation education can produce a unisex ideal. The Tuckamore Simulation Research Collaborative (TSRC) has published clinical communication scenarios for learners. Leadership skills may be taught in a similar way. **Methods:** One traditionally associates simulation with computerized human mannequins. However hybrid simulation and role-play are effective tools for teaching communication and teamwork when sound pedagogy is used alongside learning objectives that are appropriate for students' skill levels. The TSRC has developed a suite of simulation-based communication scenarios for teaching how to manage difficult patient encounters and for breaking bad news. A similar approach may be used to teach leadership skills. **Discussion:** Good leadership is important when managing multiple traumas, breaking bad news or in difficult patient encounters. It depends on effective communication, which can be deconstructed into observable verbal and non-verbal behaviours that are modifiable with a simulation-based curriculum. The business literature describes female communication behaviours that may be antithetical to leadership. Male leaders may traditionally communicate successfully in the boardroom, but those skills may not apply to difficult patient encounters or Emergency Department resuscitation crises. As informed by Polarity management, simulation can teach successful communication and leadership strategies to both sexes. Female students' leadership skills may improve if under-confident behaviours are identified and modified. Male students may become better leaders if they are taught collaboration and listening skills. Good leadership should be gender-neutral. **Conclusions:** Leadership and communication skills are necessary in many clinical settings. The observable behaviours that comprise them may be taught using simulation in the context of Polarity management. While applicable to both sexes, this may be particularly pertinent to women who mentor future academic leaders.

EVALUATIVE SIMULATION: AN INNOVATIVE APPROACH TO SUMMATIVE ASSESSMENT IN AN ANESTHESIA RESIDENCY PROGRAM

Steve Crummey, Jenny Harris, Sonia Sampson, Geoff Zbitnew, Discipline of Anesthesia

Background: High-fidelity simulation is widely used as an educational tool for anesthesia residency training in North American medical schools. It is frequently discussed in the critical literature in terms of its effectiveness in improving resident skills, especially for high-risk situations. However, simulation has not yet been used as an assessment tool in anesthesia training, despite the fact that it can be an accurate measure of residents' clinical competence. **Discussion:** This project involves the implementation of evaluative simulation as part of the summative assessment for anesthesia residents at Memorial University of Newfoundland. The assessment currently involves four stations: 1) an oral exam; 2) a simulated situation that is evaluated through a checklist, a global rating scale, and the anesthesia non-technical skills (ANTS); 3) a simulation debrief (not assessed); and, 4) a written exam. Preliminary evidence suggests that the results of the evaluative simulation are more representative of a resident's clinical competence than either the oral or written exams. By measuring clinical competence, evaluative simulation fills a gap in the current assessment process in place at North American medical schools which tests knowledge (the written exam) and the application of knowledge (the oral exam). Further research is planned to compare the results of evaluative simulation with resident success at the national exam. **Conclusions:** Evaluated simulation provides a more comprehensive assessment of anesthesia residents in preparation for their national exams. Further research is planned to compare the results of evaluative simulation with resident success at the national exam.

STUDENT BASED RESEARCH IN MEDICAL SIMULATION: EXTENDING CANMEDS BEYOND THE UNDERGRADUATE MEDICAL CURRICULUM

Desmond Whalen, Christopher Harty, Holly Black, Justin Murphy, Sabrina Alani, MD Students and Tuckamore Simulation Research Collaborative; Tia Renouf, Adam Dubrowski, Tuckamore Simulation Research Collaborative and Discipline of Emergency Medicine

Purpose: The Tuckamore Simulation Research Collaborative (TSRC) has six core pillars for success; mentorship, research, resources, collaboration, facilities and networking. The TSRC conforms to the idea that the whole is greater than the sum of its parts. The objective of this work was to survey medical students currently involved in the TSRC to discover how their experiences align with the CanMEDS framework. **Methods:** The primary author (DW) conducted a focus group with 6 of 8 undergraduate medical students who were paired with a TSRC mentor in an area of medical simulation. DW led the focus group session and consolidated participant comments, which were fed back to the group for review and approval. **Results:** Since its 2013 inception, the TSRC has prompted varied student research initiatives in medical simulation. Projects include novel research in communication barriers between rural and urban physicians with a role for simulation, development of a point of care ultrasound assessment tool and curriculum, and a needs assessment for simulation in rural and remote communities. Additionally, students have completed simulation scenarios in infant trauma, transportation medicine, drug overdose, drug muling, ectopic pregnancy, burn management and communication. Several of these projects have been published with others being presented at conferences nationally and internationally. Students linked these experiences to the seven roles in the CanMEDS framework. Students agreed the mentored experiences allowed them to develop fundamental skills linked to communicator, collaborator, and manager. Students were also encouraged to publish their work and believed this process highlighted the scholar, and professional CanMEDS roles. Notably, students felt confident that knowledge gained during this experience facilitated growth as a medical expert and a health advocate. **Conclusion:** Canadian medical education is driven by the Royal College CanMEDS framework. The TSRC pillars of networking, mentorship, collaboration and research directly equate to the CanMEDS roles. Students enjoy the TSRC research experience because of dynamic mentors who encourage autonomy and provide expert guidance. Through simulation scenario development and publication, students gain both clinical knowledge and valuable scholarly research skills. The reward for students and mentors is a concrete product that can be disseminated to the greater medical community.

MOBILE SIMULATION LAB WITH ACUTE CARE TELE-MEDICINE SUPPORT

Michael Parsons, Discipline of Emergency Medicine; Kathleen Wadden, Faculty of Engineering and Applied Science; Megan Pollard, Adam Dubrowski, Andrew Smith, Discipline of Emergency Medicine

Purpose: Simulation – the replication of an event/task for the purpose of training and/or assessment – is an integral part of health care education. In Newfoundland and Labrador, rural medical education is particularly important as approximately half our population lives in rural communities spread across a vast geography. This presents a number of challenges to providing acute medical services and maintaining procedural proficiency. We are building a mobile simulation unit (MSU) with telemedicine support to overcome geographical barriers and bring education to the learner. **Methods:** This project follows a prototype development series framework, whereby results from each prototype inform/enhance development of further prototypes. Prototype 1 is currently in development. Two research students have completed background research and determined the most appropriate and cost-effective materials. The key components of the design are portability, ease of use, functionality and versatility. **Results:** A portable inflatable tent was chosen as the best option for the main structure of the MSU in terms of cost, portability and ease of use. The tent is locally designed and functions in a variety of environmental conditions. It will be outfitted with heat and light to establish a comfortable work area. Electricity will come from local power or a portable generator, allowing deployment in remote locations. For simulated "patients" or mannequins, a standard massage table will be used as a moveable "bed", as they are inexpensive and portable. Fixed cameras, chosen based on battery life, connectivity and image quality, will be secured around the tent and learners will wear a portable camera allowing instructors to "see what they see". Webcams and AV projectors will further facilitate instructor-trainee communication. Videos will be reviewed and analyzed using StudioCode™. Mac computers will be positioned in the MSU and at Memorial's HELPS lab. Internet connection for the MSU will be through local Wi-Fi or cellular access. Waterproof containers and a cargo trailer will be used to transport all components of the

MSU. **Conclusions:** Using the above components, the first MSU prototype will be created. As a next step, we will assess the functionality of the unit in a practical setting and use this information to direct subsequent modifications.

ISLAND-BASED RESEARCH: OBSTACLE OR OPPORTUNITY?

Tia Renouf, Discipline of Emergency Medicine; Desmond Whalen, MD student; Adam Dubrowski, Discipline of Emergency Medicine, Discipline of Pediatrics and Marine Institute; Deborah Rose Dillon, Southern District Health Board of NZ; Michael Scantlebury, Hospitality and Tourism Management Department, Grand Valley State University, Michigan; Verle Harrop, Atlantic Research Centre, University of New Brunswick; Godfrey Baldacchino, Department of Sociology, University of Malta and Island Studies Teaching Fellow, University of Prince Edward Island

Purpose: Like Darwin's finches, island dwellers evolve and adapt to their unique environments. This creates opportunities and challenges for island research. Interdisciplinary collaboration between mainland and island-based scholars is desirable. As islands represent complex systems, a needs-based, iterative and systematic strategy for island studies, similar to CIHR's knowledge translation (KT) approach, may be helpful. This pilot study illuminates barriers and benefits to island research. **Methods:** We initiated a global interdisciplinary research exchange group to study barriers and facilitators to island research. Three themes emerged: logistics, philosophy and ethics. **Results:** LOGISTICS: Bucolic and slow-paced island settings offer attractive lifestyles, but inadequate human and financial resources can hamper recruitment. Climate, distance and isolation are challenging, given erratic and expensive ferry or air schedules. Expensive travel deters collaboration, academically isolating lone island researchers. Distance communications can be slow or unreliable. Imported equipment and its warranties are expensive. PHILOSOPHY: Island territorialism disrupts teamwork if mainland collaborators are seen as "other". Protectionism can hinder research objectivity. Though island studies generate unique research questions, the answers can be context-specific and un- generalizable. Island researchers, like island inhabitants, may be jacks-of-all-trades, having broad research foci rather than traditional deep expertise in a single area. While the broad reach and scope of small island-based research may bring an enviable trans-disciplinary eclecticism, it may also sometimes be difficult to attract mainstream collaborators and funders. ETHICS: Islands have unique but also potentially sensitive research potential. It can be difficult to recruit subjects to answer a delicate research question, particularly if the investigators are familiar to the community. Industry may fund island research to answer island-specific questions. This brings resources and technology along with potential conflicts of interest. It is ethically and practically important to consult islanders in research about themselves and their contexts. Islanders who are interested in themselves may welcome local studies. However, island politics may determine which voices are most audible. Researchers must invest time in the islands they study as well as in their inhabitants. **Conclusion:** We identified positives and negatives about island research across many disciplines. Iterative systematic interdisciplinary collaboration among island researchers and subjects alike, modeling CIHR's KT approach, may help to produce contextually relevant island scholarship. **Disclosure Statement:** Supported by an MRF grant.

DEVELOPMENT OF AN EMERGENCY MEDICINE SIMULATION BOOK TO FACILITATE USE OF SIMULATION BASED MEDICAL EDUCATION IN OUR CURRICULUM

Michael Parsons, Discipline of Emergency Medicine

Purpose: Simulation-based medical education (SBME), as a teaching, learning and assessment tool, has seen increased application in many areas of medicine. In emergency Medicine (EM), trainees must develop a specific skill set to enable smooth transition to clinical practice and to ensure patient encounters have the best possible outcomes. To guarantee that residents develop the required expertise in core EM topics, procedural skills and crisis resource management it's important to supplement hands-on clinical learning with interactive simulation-based cases. To maximize the benefits residents receive from the simulation component of their training, we compiled the EM SIM Book including information from key resources and examples relevant to our local setting. **Methods:** The EM Simulation document draws from a number of sources, including the course manual Center for Medical Simulation: Institute for Medical Simulation Comprehensive Instructor Workshop, www.harvardmedsim.org. Local resources were also utilized, including Memorial University's Clinical Learning and Simulation Centre and the Tuckamore Simulation Research Collaborative. Further information, largely surrounding procedural skills, came from the textbook Roberts and Hedges: Clinical Procedures in

Emergency Medicine. Permission was obtained from all sources for small-scale distribution and use in academia/teaching. **Results:** The final product consists of 80+ pages of information introducing residents to local simulation resources/ settings, providing relevant background information and orienting residents to this modality of curriculum delivery. Theory and rationale behind simulation use is outlined and information on debriefing is highlighted to show its key role in using simulation as an educational tool. Specific information on a number of core EM procedures is also included, outlining necessary materials for each procedure and providing tips on setting up practice stations for these skills. A number of references and links are provided for further reading on topics including, debriefing, crisis resource management, medical error/handover, etc. Further learning resources are noted, including information on case development for potential teachers. **Conclusions:** Simulation is a valuable tool for teaching many skills in the field of medicine. This is particularly true for the broad knowledge base and skill-set required in Emergency Medicine. Our simulation document aims to compile key information in an organized fashion to optimize the SBME experience for our residents.

RESIDENT-DRIVEN PEER SIMULATION CURRICULUM

Kyle Murphy, Josh Gould, Natalie Bandrauk, Discipline of Medicine

Purpose: High-fidelity simulation has increasingly become an important part of medical education. In postgraduate training, simulation provides a safe and valuable way for residents to learn collaboratively and take leadership roles during acute clinical scenarios. Memorial University has opened a new high-fidelity simulation centre. A barrier to incorporating greater simulation in the academic curriculum of the Internal Medicine program has been a lack of engaged and experienced faculty with expertise in it. MUN residents, already routinely engaged in direct peer teaching activities, were recruited to design and facilitate novel simulation scenarios and to lead debriefing exercises. Now in its second year, this project aims to make high-fidelity simulation an established component of the MUN Internal Medicine training program. **Methods:** Internal Medicine residents were scheduled in small groups to attend two half-days of simulation and to participate in a new scenario. These sessions were scheduled in addition to the existing academic half-day curriculum. As in the previous year, resident-facilitators designed these scenarios. They also led the debriefing exercises and presented relevant background material. In all scenarios, high-fidelity human patient simulators required residents to identify, assess, and manage unstable patients and review ACLS algorithms. Comprehensive standardized simulation evaluations were completed by each of the participating residents. **Results:** Resident participants commented that their comfort in managing acute medical situations while on call improved after their completion of simulation sessions. The pairing of junior and senior residents in small groups was seen as facilitating a well-supported learning environment. The difficulty of balancing the significant time commitment and existing clinical duties was seen as a potential barrier to full participation. **Conclusions:** Simulation training has been established as a productive and valuable training tool for MUN Internal Medicine residents. Attendance and feedback indicate that the residents believe in the value of simulation training. The next phase of this project will be creating a mechanism to ensure that simulation is a part of our training for years to come. Building a simulation case library and recruiting residents to take on the responsibilities of organizing simulation half-days will be important parts of securing the future of the simulation program.

LOW FIDELITY SIMULATION FOR REMOTE AND LOW-RESOURCED SETTINGS: A BOUGIE-ASSISTED CRICHOTHYROIDOTOMY MODEL

Michael Parsons, Tia Renouf, Discipline of Emergency Medicine; Sabrina Alani, MD Student; Adam Dubrowski, Discipline of Emergency Medicine, Discipline of Pediatrics, and Marine Institute

Background: Simulation is the replication of a task or an event for the purpose of training and/or assessment. It should be modular and adaptable, and should challenge learners' current skills without overwhelming them. Computerized mannequins are simulators, but so are inanimate bench top models and standardized patients (SPs). These devices can be used alone or in combination to produce optimally challenging learning environments. Appropriate pedagogy must be tied to learning objectives to produce the best learning. Pedagogy must also match training or assessment expectations with learners' abilities and available resources. Memorial is a distributed teaching environment with partners in the Canadian Arctic, offshore and marine contexts. Memorial's Tuckamore Simulation Research Collaborative (TSRC) also has partners in rural Haiti. Highly technical and expensive simulators are often impractical in both rural/

remote NL and Haitian contexts. However, simulators produced with local resources are effective teaching tools. They are also a means to teach visiting learners about a host country's social determinants of health when visiting learners and local students shop together at local markets for raw materials. This strategy provides invaluable opportunities for communication and contextual understanding between cultures. **Description of The Model:** We developed a bougie-assisted crichothyroidotomy model for rural and remote training. Our objectives were to make an inexpensive modular unit with readily available resources, to be replicable in as many teaching contexts as possible. It can be used in tandem with SPs in hybrid simulations, or as a stand-alone model to teach surgical airway skills. The inexpensive modular design allows learners to practice repetitively with feedback. This model is easy to make locally or on site, and it travels well. In summary, simulation as an educational tool can be constructed and used in many ways. In designing simulators we strive to create realism, but realism need not be highly technical. We present an inexpensive simulated surgical airway model. It is well suited for low resource and remote environments. It can be combined with other types of simulators to achieve greater realism.

EMERGENCY DOCTORS THINK IN SPIRALS

Tia Renouf, Discipline of Emergency Medicine; Desmond Whalen, MD Student; Megan Pollard, Graduate Student, Department of Psychology; Adam Dubrowski Discipline of Emergency Medicine, Discipline of Pediatrics and Marine Institute

Background: Memorial recently introduced the Emergency Medicine (EM) Core Rotation for clerks. As adult learners, clerks will be expected to own their patients and follow them from presentation in the Emergency Department (ED) to disposition. We in Memorial's discipline of Emergency Medicine developed a mnemonic for prompting students to reassess their patients continually in the ED where time-sensitive interventions may be crucial. **Discussion:** Adult learning theory suggests that clerks should be practical, internally motivated and self-directed learners who appreciate practical outcomes. Teaching is best when students' learning styles preference are considered. Traditionally, clerks are taught to navigate a comprehensive and linear list of patient questions for presentation to their preceptors. These presentations can be lengthy and unfocused, and they can both omit key information and delay important interventions like giving analgesia. The ED is a unique teaching environment. Cognitive load is high and timely patient interventions are often critical. Though useful for the Internal Medicine service, the exhaustive traditional presentations taught to clerks are impractical in the ED. They omit important information that is essential to comprehensive and timely ED patient management. Mnemonics like RAPID and SNAPPS have been developed to assist clinical clerks to present cases concisely yet thoroughly in the ED, but they are linear and exist at one given point in time. To own their patients and follow them over through their ED course, clerks need to think in spirals, always re-evaluating priorities and circling back to critical problems while performing necessary interventions and remembering important details such as a patient's social situation and why they came to the ED on a particular day. We describe the SPIRAL mnemonic to assist in circular as opposed to linear thought processes.

S=Sick?
P=Pain?
I=Intervention/Treatment
R=Re-Resuscitate and
Re-**A**ssess
L=Leaves the ED

Resuscitation is at the centre of the spiral and all interventions must circle back to it. **Conclusion:** The SPIRAL mnemonic, developed by Memorial University's EM discipline, may be a useful addition to RAPID and SNAPPS. It adds the dimension of time to a linear framework, for clerks who are learning to follow their patients through their entire ED stay.

WORKSHOPS

THE USE OF PHYSIOLOGIC STORY BOARDS AS TOOLS FOR SCENARIO DEVELOPMENT AND LIVE SCENARIO DIRECTION

Noel O'Regan, Sonia Sampson, Discipline of Anesthesia

Background: High fidelity simulation is used to provide realistic educational encounters based on high risk medicine in a safe environment. It is the simulation scenario itself that determines the educational content of the encounter. Compared to the educational benefits of simulation and debriefing techniques, little attention is placed on how to develop scenarios aimed towards specific educational outcomes or objectives. **Objectives:** By the end of this interactive workshop, participants will be able to discuss what storyboards are and how they apply to the development of high fidelity simulation scenarios. They will be able to develop a physiologic storyboard and use this in several ways. The storyboard will be used as a frame to create a simulation script, collaborators scripts and prompts. As well, participants will understand how a storyboard can be very useful to both the simulation operators and scenario directors during live simulations. **Teaching Methods:** The workshop will primarily use small group exercises to develop scenario objectives, overview, and development of physiologic storyboards for each group. Use of laptops and PowerPoint are encouraged as a platform for the storyboards. The storyboards developed will be reviewed and feedback provided. How the storyboards can be expanded for scripting and use during live scenarios will be discussed.

ADDRESSING THE ELEPHANTS IN THE INTERPROFESSIONAL ROOM: MEMORIAL UNIVERSITY'S MODEL

Olga Heath, Centre for Collaborative Health Professional Education; Caroline Porr, School of Nursing; Carolyn Sturge Sparkes, Division of Community Health and Humanities; Michelle Neary, Counselling Centre; Hubert White, Discipline of Psychiatry; Janice Parsons, School of Social Work; Brenda Kirby, Adam Reid, Centre for Collaborative Health Professional Education; Andrea Brennan-Hunter, School of Nursing; Anne-Marie Sullivan, Department of Human Kinetics & Recreation; Erin Davis, School of Pharmacy; Melissa Hoskins, Graduate Student, Department of Psychology; Michael Ducey, MD Student

Background: Given the challenges with scheduling interprofessional education (IPE), many universities have introduced cross-bar curricular structures for IPE within which learners come together for a brief period of joint study but may never interact with one another again during their training. The context of a brief one-time session affords limited opportunity to engage learners in the exploration of the complex and contentious issues which often pose significant challenges to effective interprofessional collaboration (IPC) such as power differentials, conflict, role overlap and team failure. It is critical to have learners educated about these "elephants in the room" and to appreciate how they personally can contribute to both the problem and the solution before they enter practice. This occurs most productively in a setting in which there is trust and guided reflection. Memorial University's Interprofessional Skills Training (IPST) curriculum model, in which interprofessional facilitated small-group learning teams meet for eight half-day sessions over a two year period forming consistent learner groups, helps to promote trust and a safe learning environment. Facilitators are trained to lead interprofessional group discussions and to manage team process issues. IPST is based on an eclectic mix of behavioural, social constructivist and critical reflection learning principles, and engages learners in reflecting on and resolving clinical health care dilemmas as members of a team. The IPST activities are competency-based and focus on building skills to manage the complex and challenging processes surrounding effective interprofessional teamwork.

OBJECTIVES:

1. Describe the components of the IPST curriculum model for developing collaborator competencies

2. Explain how the IPST curriculum model addresses the challenging and often ignored interprofessional issues

3. Analyze how the IPST principles and curriculum might be adapted for participants' use

TEACHING METHODS:

1. The workshop will comprise interactive large and small-group learning exercises, role playing, and opportunities for questions and discussion (Objectives 1 and 2).

2. To achieve Objective 3 we have exercises designed to promote the discussion and evaluation of the feasibility of using Memorial's IPST Model.

DELIVERING FEEDBACK: MORE THAN JUST A SANDWICH

Steve Shorlin, Medical Education Scholarship Centre

Background: High quality, timely feedback is one of the most valuable tools available to teachers and their learners. Unfortunately, constructive feedback is often not well-received by learners and teachers become tempted to gloss over important issues when they find feedback hard to give. One technique, the feedback sandwich, has become popular but it is limited in applicability and may cause more problems than simply being straightforward. We all know that feedback is important, but how do we set ourselves up for success? **Objectives:** By the end of this interactive workshop, participants will be able to recognize barriers to effective feedback and identify key preparatory strategies so that feedback will be better received. Participants will also be able to implement alternatives to the traditional feedback sandwich. Finally, participants will practice some strategies for giving feedback in difficult learner situations. **Teaching Methods:** Some large group didactic information but an emphasis on small group work, with discussion and role plays. This workshop will be adapted to the needs of the audience, including those who give feedback in-person and in written form to classroom learners, clinical learners, and graduate students.

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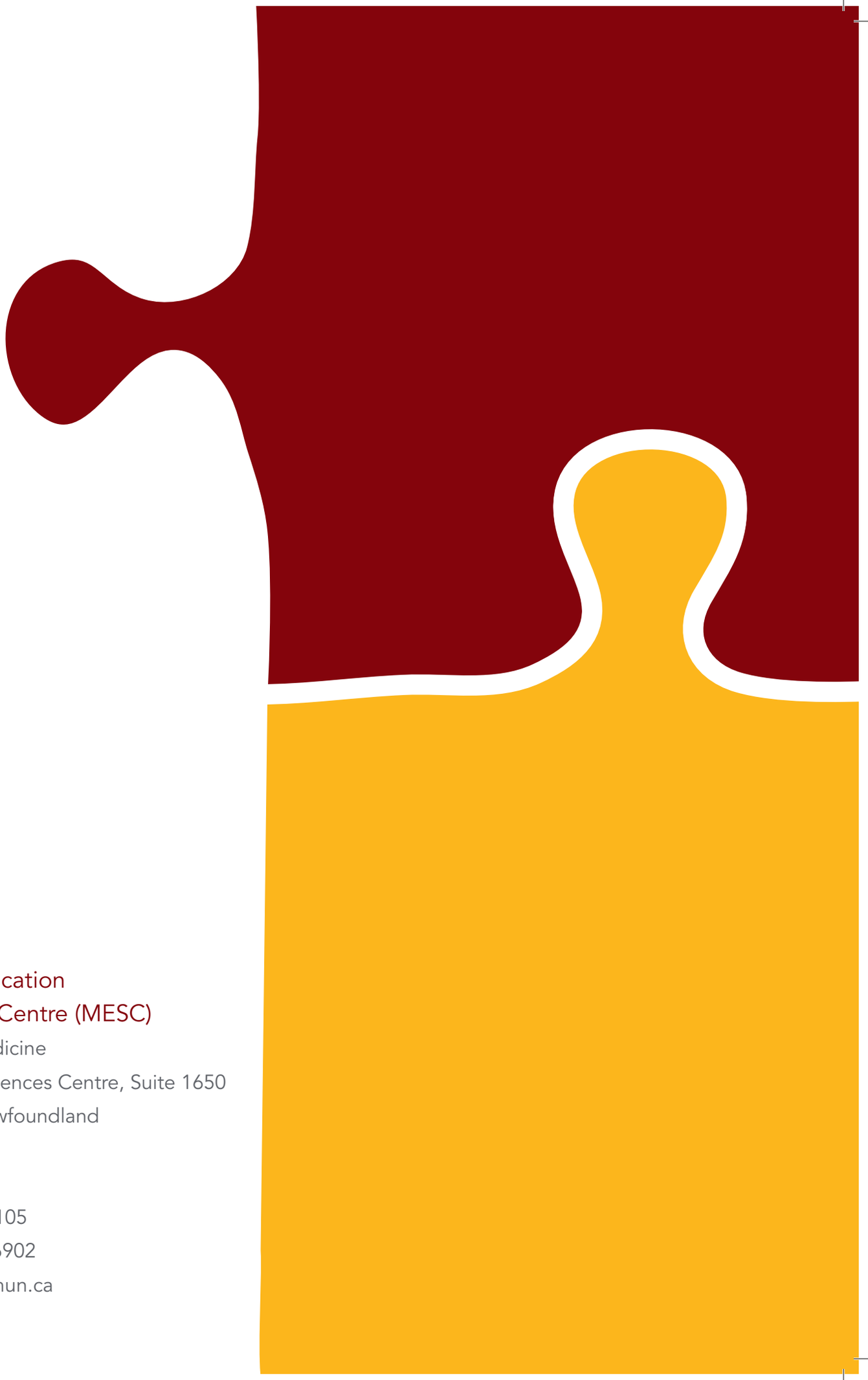

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