

LO089

Out of province elective restrictions: implications for Royal College Emergency Medicine training

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Introduction / Innovation Concept: Several provinces (AB, SK and QC) have recently introduced restrictions to out of province (OOP) electives. Concurrently, enhanced competency training is a prominent part of RCPSC Emergency Medicine (EM) programs (Thoma et al., 2015). We present the implications of OOP elective restrictions on RCPSC-EM training and education. The revised 2008 RCPSC-EM requirements specify a minimum of 6 months devoted to achieving a particular expertise pertinent to the practice of EM. The most restrictive policies permit up to 3 months OOP during the 5-year residency. This limits residents' ability to pursue enhanced competency training opportunities outside their training site. Enhanced training might be a graduate degree, fellowship or clinical year designed by the resident and program director. Enhanced training can help achieve specific career goals, meet the needs of the institution where the resident will practice, and contribute to the growth and development of EM in Canada. **Methods:** New OOP policies are evaluated using the Health Reform Analysis (HRA) and SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis methodologies. Stated and implied reasons for reform are evaluated and stakeholder perspectives (health system authorities, partner universities, resident physicians and the general public) provided. **Curriculum, Tool, or Material:** The material includes previous out of province elective policies and recent reforms. **Conclusion:** Policies for the 4th year EM elective time are variable across universities. This has resulted in inconsistent approval of residents' requests for OOP enhanced training. Thus, enhanced training that might be approved at one site, may not be at another. Several test cases already exist and will be presented. This data has not been previously collated or reported to our knowledge. Varied interpretation of newly emerging policies has implications for the consistency, equity, and future of EM residency training in Canada.

Keywords: innovations in EM education, enhanced training, education policy

LO090

Introduction of a formalized RUSH (Rapid Ultrasound in Shock) protocol in emergency medicine residency ultrasound training

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Introduction / Innovation Concept: Expanding point of care ultrasound education in emergency medicine (EM) programs is a necessary part of curriculum development. Our objective was to integrate core and advanced applications for point of care ultrasound in caring for critically ill patients with undifferentiated shock. We chose to develop and implement an educational module using the systematic approach of the RUSH Exam for EM residents in our institution. **Methods:** After review of the literature in point-of-care ultrasound, a module was designed. An educational proposal outlining the RUSH Exam training within the -EM and CCFP-EM curricula was submitted to and accepted by the residency training committee. The objectives and goals were outlined in accordance with CanMEDS roles, and the ultrasound director provided supervision for the project. **Curriculum, Tool, or Material:** An 8-hour educational module was implemented between October 7 and November 18, 2014. All residents received formal training on the core applications in FAST and aortic scans prior to implementation. The following components of the RUSH Exam

were included: two hours of didactic teaching with video clips on advanced cardiac, IVC, DVT, and pulmonary assessment; three hours of hands-on practice on standardized patients performed in the simulation lab to practice image acquisition and interpretation; one hour of didactic teaching on the overall approach to a patient with undifferentiated shock using the RUSH Exam; and two hours of hands-on RUSH Exam practice. A corresponding research project integrating a SonoSim Livescan training platform, a simulation-based testing device, demonstrated improvement in resident performance, subjective comfort with imaging patients in shock and making clinical decisions based on the findings. **Conclusion:** This 8-hour RUSH Exam educational module combined theoretical learning and hands-on practice for trainees. This module significantly broadened the scope of ultrasound training in our curriculum by providing the necessary skills in approaching patients in shock in a systematic fashion. Future direction will include ongoing education in this area and expansion as appropriate.

Keywords: innovations in EM education, ultrasound, shock

LO091

Non-urgent presentations to the emergency department: patients' reasons for presentation

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Introduction: Some low acuity Emergency Department (ED) presentations are considered non-urgent or convenience visits and potentially avoidable with improved access to primary care. This study explored self-reported reasons why non-urgent patients presented to the ED. **Methods:** Patients, 17 years and older, were randomly selected from electronic registration records at three urban EDs in Edmonton, Alberta (AB), Canada during weekdays (0700 to 1900). A 47-item questionnaire was completed by each consenting patient, which included items on whether the patient believed the ED was their best care option and the rationale supporting their response. A thematic content analysis was performed on the responses, using previous experience and review of the literature to identify themes. **Results:** Of the 2144 eligible patients, 1408 (65.7%) questionnaires were returned, and 1402 (65.4%) were analyzed. For patients who felt the ED was their best option ($n = 1234$, 89.3%), rationales included: safety concerns ($n = 309$), effectiveness of ED care ($n = 284$), patient-centeredness of ED ($n = 277$), and access to health care professionals in the ED ($n = 204$). For patients who felt the ED was not their best care option ($n = 148$, 10.7%), rationales included a perception that: access to health professionals outside the ED was preferable ($n = 39$), patient-centeredness (particularly timeliness) was lacking in the ED ($n = 26$), and their health concern was not important enough to require ED care ($n = 18$). **Conclusion:** Even during times when alternative care options are available, the majority of non-urgent patients perceived the ED to be the most appropriate location for care. These results highlight that simple triage scores do not accurately reflect the appropriateness of care and that understanding the diverse and multifaceted reasons for ED presentation are necessary to implement strategies to support non-urgent, low acuity care needs.

Keywords: non-urgent, access to care, emergency department

LO092

The educational impact of a formalized RUSH (Rapid Ultrasound in Shock) protocol in emergency medicine residency ultrasound training

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Introduction: Point of care ultrasound for assessment of undifferentiated hypotension and shock is part of the clinical scope of Emergency Physicians in Canada. The RUSH Exam outlines a systematic approach to these patients. A RUSH Exam educational model using didactic and hands on practice was developed and implemented for Emergency Medicine (EM) residents. This study evaluated the effectiveness of the module in a simulated setting on the following endpoints: improvement in image acquisition, interpretation, speed, and subjective comfort level, among EM residents with basic ultrasound training. **Methods:** Approval was received from the institutional health research ethics board for this before and after simulation study. Residents in the -EM Program or CCFP-EM Program from July 2014 to July 2015 were eligible to consent. Participants were excluded if they were unable to complete all portions. All residents were educated to the same level of introductory ultrasound training based on the curriculum in place at our institution. The 8-hour intervention included RUSH didactic and hands on small group sessions. Testing before and after the intervention was performed with the SonoSim Livescan training platform. Two evaluators scored each resident on the accuracy of image acquisition, image interpretation, and time to scan completion. A before and after survey assessed resident comfort level with performing ultrasound on an emergency patient in shock, and basing decisions on ultrasound findings. Statistical analysis was performed using McNemar's test for image acquisition and interpretation, a paired T test for time, and the Bahpkar test for the questionnaire. **Results:** 16 EM residents including 11 senior residents and 5 junior residents were enrolled. Improvement was achieved in the categories of IVC image acquisition and interpretation, as well as interpretation for B-lines, lung sliding, cardiac apical and parasternal long axis, and DVT ($p < 0.05$). Subjective comfort level of performing ultrasound in shock and basing decisions on the findings was increased ($p < 0.0001$). Among junior residents, there was an increased speed of image acquisition. **Conclusion:** With the introduction of the RUSH Exam educational module, EM residents showed improved image acquisition, image interpretation, speed, and comfort level when using ultrasound in critically ill patients.

Keywords: simulation, ultrasound, education

LO093

A national needs assessment survey for the development of a quality improvement and patient safety curriculum for Canadian emergency medicine residents

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Introduction: The Canadian Medical Education Directives for Specialists (CanMEDS) framework defines the competencies that postgraduate medical education programs must cover for resident physicians. The 2015 iteration of the CanMEDS framework emphasizes Quality Improvement and Patient Safety (QIPS), given their role in the provision of high value and cost-effective care. However, the opinion of Emergency Medicine (EM) program directors (PDs) regarding the need for QIPS curricula is unknown, as is the current level of knowledge of EM residents in QIPS principles. We therefore sought to determine the need for a QIPS curriculum for EM residents in a Canadian Royal College EM program. **Methods:** We developed a national multi-modal needs assessment. This included a survey of all Royal College EM residency PDs across Canada, as well as an evaluative assessment of

baseline QIPS knowledge of 30 EM residents at the University of Toronto (UT). The resident evaluation was done using the validated Revised QI Knowledge Application Tool (QIKAT-R), which evaluates an individual's ability to decipher a systematic quality problem from short clinical scenarios and to propose change initiatives for improvement. **Results:** Eight of the 13 (62%) PDs responded to the survey, unanimously agreeing that QIPS should be a formal part of residency training. However, challenges identified included the lack of qualified and available faculty to develop and teach QIPS material. 30 of 30 (100%) residents spanning three cohorts completed the QIKAT-R. Median overall score was 11 out of 27 points (IQR 9-14), demonstrating the lack of poor baseline QIPS knowledge amongst residents. **Conclusion:** QIPS is felt to be a necessary part of residency training, but the lack of available and qualified faculty makes developing and implementing such curriculum challenging. Residents at UT consistently performed poorly on a validated QIPS assessment tool, confirming the need for a formal QIPS curriculum. We are now developing a longitudinal, evidence-based QIPS curriculum that trains both residents and faculty to contribute to QI projects at the institution level.

Keywords: quality improvement, patient safety, medical education

LO094

Mass casualty incident training for rural Canadian municipalities: a mobile education unit initiative

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Introduction / Innovation Concept: The Shock Trauma Air Rescue Society (STARS®) is a charitable, non-profit organization that is dedicated to providing a safe, rapid, highly specialized emergency medical transport system for the critically ill and injured. The STARS® Mobile Education Unit (MEU) is comprised of a high fidelity simulation suite that mimics a hospital emergency room, installed in a specially equipped motorhome (SEM) that can wirelessly operate a high fidelity human mannequin. The MEU provides an excellent opportunity to combine continuing medical education for resuscitation and MCI management. At present, no formal MCI education process exists in Saskatchewan. **Curriculum, Tool, or Material:** The Saskatchewan STARS® MEU delivers a phased MCI education initiative to rural and regional centers within the province. The educational initiative is sub-divided into three stages: 1. pre-exercise knowledge translation using a flipped classroom approach, 2. on-site tabletop exercise (TTX) and, 3. high-fidelity simulation session with a review of MCI management principles. Sites perform a Hazard Vulnerability Analysis (HVA) following stage 2 and the highest identified site-specific risks are utilized during the development of the simulated scenarios for stage 3. During stage 2, participants also complete a pre and post-exercise survey. The survey evaluates the educational component, the tabletop exercise component and the perceived pre and post tabletop exercise competencies for the management of MCI. In the pilot project, two regional sites completed the tabletop exercise. The pre-exercise survey evaluated perceived MCI and disaster preparedness for the region. Only 8% and 25% of participants at each site respectively, reported that their disaster plan had been trialed in tabletop, full exercise or real activation within the past three years. Participants strongly agreed that the tabletop exercise was a valuable experience (86% and 88% respectively). More robust data will become available as the initiative transitions out of the pilot stage to formal operations. **Conclusion:** A formal MCI training program implemented through the STARS® MEU for rural Saskatchewan municipalities enables participants and their organizations to both review and enhance their current emergency management plans. This