

teaching (33.3%). **Conclusion:** The emergency department provides an excellent learning environment for a large range of Off-Service residents early in their training. In addition to clinical shifts, a curriculum incorporating simulation and small group teaching and that covers a large scope of topics is necessary to meet the needs of these residents. **Keywords:** emergency medicine rotation, innovations in EM research, off-service resident

LO59

Retention of critical procedural skills post-simulation training: a systematic review

C. Legoux, MDCM, R. Gerein, MD, K. Boutis, MD, MSc, A. Plint, MD, MSc, Children's Hospital of Eastern Ontario, Ottawa, ON

Introduction: Short-term gains in knowledge and skills of critical emergency procedures are demonstrated after simulation, but there is uncertainty regarding long term retention. Our objective was to determine whether simulation of critical emergency procedures promotes long term retention of procedural skills in non-surgical physicians likely to perform them. **Methods:** MEDLINE and Embase (from start of database to June 2018) and the CENTRAL Trials Registry of the Cochrane Collaboration (May 2018 Issue) were searched using a peer-reviewed strategy. Studies were eligible if they (1) were observational cohorts, quasi-experimental or randomized controlled trials, (2) assessed intubation, cricothyrotomy, pericardiocentesis, tube thoracostomy or central line placement performance by non-surgical physicians, (4) utilized any form of simulation (all levels of realism and technology), and (4) assessed skill performance immediately after and at ≥ 3 months post-simulation. There was no language restriction. Two reviewers independently assessed article eligibility. One reviewer extracted data and assessed study quality. Primary outcome was skill performance 3 months post-simulation. Secondary outcomes included skill performance at 6 and ≥ 12 months post-simulation, and skill competency at 3 months post-simulation. **Results:** 1370 citations were identified. 12 studies were eligible. Methodological quality was uniformly poor with high risk of bias, lack of defined primary outcomes, inadequate sample sizes, and non-standardized, unvalidated tools of unclear clinical significance. Given significant heterogeneity in design, populations, procedures, and outcome timing, a narrative synthesis of results was undertaken. In 10 studies participants' performance at 3, 6 and 12 months retention testing remained above baseline assessment. However, 3 studies showed a significant decrease in performance at 3 months post-simulation compared to immediately post-simulation. Performance was also lower in 2 studies at 6 months post-simulation, and 2 studies at ≥ 12 months post-simulation. Four studies assessed competency and 3 demonstrated maintenance of competency. **Conclusion:** There was significant heterogeneity and poor methodological quality among the eligible studies. Results were conflicting for retention of procedural skills and competency. Future directions should include development of robust assessment tools, and improved research methodology of simulation education targeted at critical procedural skills.

Keywords: competency, critical skill, retention

LO60

Health research methodology education in Canadian emergency medicine residency programs: a national survey of curriculum assessment

A. Wang, BSc, K. Van Aarsen, MSc, A. Meiwald, MD, J. Yan, BSc, MD, MSc, Western University, London, ON

Introduction: With a shift towards competency-based medical education, it is crucial to not only emphasize learner abilities such as clinical skills but also leadership in the conduct of research. Though the Royal College of Physicians and Surgeons of Canada's (RCPSC) training objectives for Emergency Medicine (EM) residents state that the specialist physician be able to describe the principles of research, the research methodology curriculum across EM training programs in Canada is likely variable. The primary goal of this study was to describe the variability of research methodology teaching among RCPSC-EM residency programs. **Methods:** An electronic survey was distributed to English-speaking RCPSC-EM program directors (PDs) and EM residents. The survey investigated residents' and PDs' thoughts on the adequacy of their local curriculum and asked them to quantify their research methodology teaching. The primary outcome was the frequency and content of current research methodology and research ethics teaching as well as a description of scholarly project requirements of EM residency programs across Canada. The data was presented with simple descriptive statistics. **Results:** 79 EM residents and 7 PDs responded (response rate 22.3% and 58.3%, respectively). All 7 PDs indicate having a research methodology curriculum while 71.6% of residents are aware of this curriculum. Only 57.1% of PDs report having formal assessments. Most programs (71.4%) teach via small groups while 28.6% of programs use large group sessions. Residents identify teaching as led by research staff (68.9%), staff physicians (60%), and EM researchers (57.8%), while only 17.8% use outside educators. Students noted various modalities of curriculum feedback such as online surveys, weekly forms, and verbal feedback. Regarding the strength of the curricula, 85.7% of PDs believed their curriculum prepares residents for board exams, while only 62.2% of residents felt similarly. When asked about using a standard web-based curriculum module if available, 60.5% of residents responded in favour. **Conclusion:** This study demonstrates that EM residency programs across Canada vary with respect to research methodology curriculum and discrepancies exist between residents' and program directors' perceptions of the curriculum. Given the lack of a standardized research methodology curriculum for these residency programs, there is an opportunity for curriculum development to improve training in research methodology.

Keywords: curriculum assessment, research methodology, residency education

LO61

A national needs assessment on quality improvement and patient safety education in Canadian emergency medicine residency programs

S. Trivedi, MD, R. Hartmann, MSc, MD, J. Hall, MD, MPH, MSc, L. Nasser, MD, O. Levac-Martinho, MD, D. Porplycia, MSc, E. Kwok, MD, MHA, MSc, L. Chartier, MDCM, MPH, Royal University Hospital, Saskatoon, SK

Introduction: Quality improvement and patient safety (QIPS) are increasingly recognized as integral to the provision and advancement of emergency medicine (EM) care. In 2015, QIPS were added to the Canadian Medical Education Directives for Specialists (CanMEDS) framework. However, the level of QIPS education and support that Canadian EM residents receive is unknown. In order to better plan national QIPS efforts aimed at enabling EM residents to improve their local care settings, we sought to assess the current state of QIPS education and support in Canadian EM residency programs.