

conducting audits to identify underlying quality issues, take steps to address the underlying causes, and submit reports to HQO. A taskforce will then analyze clinical observations, summarize key findings and lessons learned, and share improvements at a provincial level through an annual report. **Results:** Since its launch in April 2016, 73 P4R and 16 voluntarily enrolled non-P4R hospitals (which collectively receive approximately 90% of ED visits in the province) are participating in the RVQP. ED leaders have engaged their hospital's leadership to leverage interest and resources to improve patient care in the ED. To date, hospitals have conducted thousands of audits and have identified quality and safety gaps to address, which will be analyzed in February 2017 for reporting shortly thereafter. These will inform QI endeavours locally and provincially, and be the largest source of such data ever created in Ontario. **Conclusion:** The ED RVQP aims to create a culture of continuous QI in the Ontario health care system, which provides care to over 13.8 million people. Other jurisdictions can replicate this model to promote high-quality care.

Keywords: quality improvement, patient safety, return visits

P036

A comprehensive quality improvement initiative to prevent falls in the emergency department

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Introduction: Patients from all population groups visit the emergency department (ED), with increasing visits by elderly patients. Patient falls in the ED are a significant safety concern, and they can lead to serious injuries and worse outcomes. Toronto Western Hospital's ED Quality Improvement (QI) team identified as a problem our assessment and management of patients at risk for falls. The aim of this project was to develop a comprehensive and standardized approach to patients at risk of falls in the ED, including implementing timely interventions for fall prevention. **Methods:** A literature review of existing tools was completed to develop our own reliable and valid fall risk screening tool for ED patients. QI methods were used to devise a comprehensive strategy starting with detection at triage and implementation of action-driven steps at the bedside, through multiple PDSA cycles, randomized audits, surveys, and education. Repeated measurements were undergone throughout the project, as were staff satisfaction surveys. **Results:** The chart audits showed a five-fold increase in the completion rate of the fall risk screening tool in the ED by the end of the QI initiative (from 10% to 50%). Constructive feedback by an engaged team of nurses was used to iteratively improve the tool, and there was mostly positive feedback on it after various PDSA cycles were completed. The various component of this novel and useful ED-based falls screening tool and bundle will be presented in tables and figures for other leaders to replicate in their EDs. **Conclusion:** We developed a completely new ED-specific fall risk screening tool through literature review, front-line provider feedback, and iterative PDSA cycles. It was used for the identification, prevention, and management of ED patients with fall risk. We also contributed to a positive change in the culture of a busy ED environment towards the promotion of patient safety. Education and feedback continue to be provided to the ED nurses for reflective practice, and we hope to continue to improve our tool and to share it with other EDs.

Keywords: quality improvement, patient safety, falls

P037

The Ontario Emergency Department Return Visit Quality Program: a provincial initiative to promote continuous quality improvement

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Introduction: Analyzing the charts of patients who have a return visit to an emergency department (ED) requiring hospital admission (termed 'RV') is an efficient way to identify adverse events (AEs). Investigating these AEs can inform efforts to improve the quality of care provided. The ED RV Quality Program (RVQP) is a new initiative supported by Ontario's Ministry of Health and Long-Term Care and managed by Health Quality Ontario. It aims to promote a culture of continuous quality improvement through routine audit/investigation of RVs. **Methods:** The provincial program is mandatory for high-volume EDs and requires auditing of some 72-hour RVs and all 7-day RVs involving 'sentinel diagnoses' (subarachnoid hemorrhage [SAH], acute myocardial infarction [AMI], or pediatric sepsis [PS]). A standardized audit template is followed that includes assessment of the type/severity and underlying causes of AEs, and potential actions for improvement. **Results:** 73 high-volume EDs and 16 smaller EDs (collectively receiving 90% of all ED visits in Ontario) are participating in the program. Nine months' data have been released to date, comprising 33,956 RVs (1.05% of 3,235,751 ED visits). Of these, 233 RVs (0.69%) were for a sentinel diagnosis (SAH = 11, AMI = 191, PS = 31). The most common presenting complaint on the index visit was abdominal pain (18%). The most common discharge diagnosis following RV admission was acute appendicitis (3.8%). **Conclusion:** The ED RVQP aims to improve the quality of care provided in Ontario's EDs by requiring hospitals to conduct audits of RVs and plan actions for improvement when quality gaps are identified. Participating hospitals have completed hundreds of audits to date.

Keywords: quality improvement, patient safety, return visits

P038

Does the pediatric emergency department have a role in pediatric palliative care?

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Introduction: Very little is known regarding the emergency department's (ED) role in the care of paediatric patients with complex chronic and life-limiting illnesses. In fact, the provision of paediatric palliative care (PPC) in the paediatric ED has, of yet, never been explored. This study aims to explore paediatric emergency medicine healthcare professionals' perspectives regarding their role in PPC and to compare these to other health care professionals' understandings of the ED's role in PPC. **Methods:** Interdisciplinary semi-structured focus groups were held with healthcare providers from pediatric emergency medicine, pediatric palliative care, pediatric complex care and pediatric intensive care. Exploratory open-ended questions introduced naturally occurring discussions and interactions. Data was transcribed in full and analysed using NVivo[®] software. Data analysis was performed by thematic analysis and theoretical sampling. **Results:** From January to October 2016, 58 participants were interviewed; most were female nurses and physicians. ED providers seek to maintain continuity of care and uphold pre-established wishes throughout PPC patients' ED visits by listening and supporting the patient and family, evaluating the clinical situation, communicating with primary care teams and organising rapid admissions to wards. Some ED providers recognized having no choice to provide palliative care approach under certain circumstances despite thinking it might not be part of their culture and role. Each interdisciplinary team demonstrated particular values and cultures, influencing their understandings of the ED's role in PPC; continuity of care is complicated by these distinct philosophies. Limitations to providing PPC in the ED are related to unsuitable physical environments, lack of

uninterrupted time, efficiency expectations, unknown patients, provider lack of knowledge and moral distress. Solutions were directed at improving communication between teams and humanizing care to develop a sensibility to quality PPC in the ED. **Conclusion:** Although the perspective of pediatric ED's role in caring for PPC patients is heterogeneous, several barriers to providing high quality emergency PPC can be overcome. Future studies will explore the experiences of PPC families presenting to the ED. **Keywords:** paediatric palliative care, emergency department, ethics

P039

Potential impact on receiving hospital of a prehospital triage system for refractory cardiac arrest: a simulation study

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Introduction: Extracorporeal cardiopulmonary resuscitation (E-CPR) has been used successfully to increase survival in patients suffering from out-of-hospital cardiac arrest (OHCA). However, few OHCA patients can benefit from E-CPR since this procedure is only performed in dedicated centers. Prehospital triage systems have helped decrease mortality from other acute conditions, by directly transporting patients to dedicated centers, often bypassing primary care centers. Our study aimed to quantify the possible impact of a prehospital triage system on the proportion of E-CPR eligible patients transported to E-CPR centers. **Methods:** We used a registry of adult OHCA collected between 2010 and 2015 from the city of Montréal, Canada. Included patients were adults with non-traumatic witnessed OHCA refractory to 15 minutes of resuscitation. Using this cohort, we created 3 scenarios in which potential E-CPR candidates could be redirected to E-CPR centers. We used strict eligibility criteria in our first pair (e.g. age <60 years old, initial shockable rhythm), intermediate criteria in our second pair (e.g. age <65 years old, at least one shock given) and inclusive criteria in our third pair (e.g. age <70 years old, initial rhythm \neq asystole). These 3 scenarios were compared to their counterpart in which patients would be transported to the closest hospital. The proportions of patients who would have been transported to an E-CPR center were compared using McNemar's test. To obtain a power of 99%, expecting 1% of discordant pairs and using a unilateral alpha of 0.83% (after Bonferroni correction), we needed to include at least 1000 patients. **Results:** A total of 3136 patients (2054 men and 982 women) with a mean age of 69 years (standard deviation 15) were included. In each simulation, prehospital redirection would have significantly increased the proportion of patients transported to an E-CPR center (pair 1: 1.3% vs 3.8%, $p < 0.001$; pair 2: 2.6% vs 7.3%, $p < 0.001$; pair 3: 7.6% vs 29.8%, $p < 0.001$). **Conclusion:** In an urban setting, a prehospital triage system could triple the number of patients with refractory OHCA who would have an access to E-CPR. This implies that centers with E-CPR capability should prepare themselves accordingly for such a system to effectively improve survival following OHCA.

Keywords: out-of-hospital cardiac arrest, prehospital system, extracorporeal resuscitation

P040

Epidemiology of gun related injuries among Canadian children and youth from 2005-2013: a CHIRPP study

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Introduction: Gun related injuries were last reported by the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) in 2005. Since that time, Canadian gun control is less stringent and non-powder guns are increasingly popular. We aim to describe trends in pediatric gun related injuries and deaths since 2005. **Methods:** This is a retrospective review of CHIRPP data. The dataset included pediatric (age 0-19 years) gun-related injuries and deaths reported by participating CHIRPP emergency departments (ED) from 2005-2013. Variables were tested using Fisher's exact test and simple linear regression. **Results:** There were 421 records of gun-related injuries in the database. Three hundred and twenty-nine occurred from use of non-powder guns, 85 occurred from use of powder-guns, and in 7 cases the type of gun was not clear. The number of gun-related injuries per 100 000 ED visits remained stable from 2005-2013 with a male predominance ($n = 366$, 87%). Most injuries resulted from non-powder guns and were unintentional. Injuries most often occurred in the context of recreation ($n = 181$) and sport ($n = 51$). One hundred fifty four eye injuries were reported, 98% of which were from a non-powder gun. Forty-six individuals required admission to hospital and 2 died in the ED. Nine of 10 intentional self-harm injuries were inflicted with a powder gun. **Conclusion:** This study describes the injuries and circumstances in which pediatric gun-related injury and death occur in Canada. Unintentional injuries caused by non-powder guns were most common. Though less fatal than powder guns, non-powder guns can still cause life-altering eye injuries. This evidence can inform injury prevention programs to target specific circumstances in which the pediatric population is most vulnerable.

Keywords: guns, epidemiology, injury prevention

P041

The nursing shift: measuring the effect of inter-professional education on medical students in the emergency department

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Introduction/Innovation Concept: Inter-professional education (IPE) involves 'occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care'. Current literature has found IPE to increase knowledge and skills, improve attitudes towards other professions, and to promote superior clinical outcomes. Health Canada has collaborated to form accreditation standards to support IPE in Canadian medical schools. The proposed educational innovation termed the 'nursing shift,' based out of Kelowna General Hospital's Department of Emergency Medicine, in partnership with UBC's Southern and Island Medical Programs, endeavors to enhance IPE in our institution. **Methods:** This nursing shift was first trialed with third year medical students as a pilot rotation beginning in March of 2016. Based on overwhelmingly positive results obtained from narrative feedback, a formal rotation with the same structure will be implemented in the form of a prospective cohort study with 48 medical students from two UBC sites. One group will attend a nursing shift, while the other group will complete the standard emergency medicine rotation without this nursing shift. Impact will be measured using a mixed-method analysis where students will be asked to provide both quantitative feedback in the form of a questionnaire, and qualitative feedback in the form of a narrative response. The primary outcome will be quantitative score differences between the groups of students, and the secondary outcome will be qualitative results for those who completed the nursing shift. **Curriculum, Tool, or Material:** The innovative educational concept consists of an 8-hour nursing shift where medical students spend the first 4 hours at triage with a nurse learning about