

provide consent (language barrier, aphasia); and those with any ambulatory impediments. Consenting participants wear the gait trackers for the duration of their stay or for a minimum of 8 hour, and ambulate as normally as they would in their home. Devices were retrieved when the patient was admitted, discharged or, after 8 hours and the steps count was then recorded from an online interface. Our primary feasibility measure is the proportion of eligible patient for which we are able to recover the tracker and record their steps. The primary validation endpoint will be the concordance between steps recorded by the gait tracking device compared to a gold standard manual step count over a fixed distance. We will report proportions with exact binomial 95% confidence intervals (CI) for feasibility and validity endpoints. **Results:** Preliminary data from an initial pilot phase includes 7 participants who wore a gait tracking device during their ED visit. Mean age was 79.7 years (+/-5.76) and 57% were females. Devices were worn by participants and recovered by research staff in all 7 cases (100%, 95% CI: 59 – 100). Data from online interface has been collected from 6 participants (85%, 95%CI: 42 – 99). Mean step count by observer was 86.17 +/- 4 (95% CI 82.2 – 90.2) and 70.3 +/- 4 (95%CI 66-74.3) by gait tracker. **Conclusion:** Our preliminary data suggests that use of gait-tracking devices in the ED is feasible.

**Keywords:** delirium prevention, gait tracking device, mobility

#### P045

##### **Palliative care nurse specialist in the emergency department: a pilot project**

K. Nichol, BScN, MScN, BA, L. Galitzine, BA, BSW, BScN, L. Kachuik, BA, MS, S. Madore, MN, S. Olivier, BScN, MScN, L. Fischer, MD, University of Ottawa, Ottawa, ON

**Background:** Patients presenting to the Emergency Department (ED) with unmet palliative care needs are often admitted to hospital and this can be a pivotal point in their subsequent health care journey. Literature from the United States supports the integration of palliative care resources in the ED and to our knowledge, this has yet to be done in a Canadian setting. **Aim Statement:** To develop, implement, and evaluate a model to support patients presenting to the ED with unmet palliative care needs. **Measures & Design:** A pilot project was implemented in one campus of the ED at a tertiary care academic center in Ottawa, Ontario. A palliative care nurse specialist was available for consultation with goals to: a) reduce admission to hospital for patients choosing to have a palliative approach to their care; b) increase coordination between ED and community resources; and c) be a resource for ED staff. Referral criteria were developed after systematic review of the literature and in consultation with palliative and emergency medicine experts. **Evaluation/Results:** Over the course of the study period (9 months), 50 referrals were made. The primary reason for referral was for increased community supports. Patient outcomes: 10 patients were discharged to hospice/palliative care units from the ED, 38 patients were discharged home. Of those discharged home, 66% had no returns to ED within 30 days. Qualitative feedback collected via pre and post survey has been extremely supportive from ED health care practitioners and community palliative care providers. **Discussion/Impact:** This ongoing project has led to positive, patient centered outcomes and decreased admission to acute care hospital. Ongoing evaluation will include consideration of Ontario Palliative Care Network quality indicators and cost-analysis to determine impact on health care system.

**Keywords:** palliative care, patient centered care, quality improvement and patient safety

#### P046

##### **Students as first responders: A survey of Canadian campus emergency medical response teams**

E. Formosa, BSc, MSc, L. Grainger, BHSc, MD, A. Roseborough, BSc, MSc, A. Sereda, BSc, MD, L. Cipriano, BSc, MSc, PhD, HBA, New York Medical College, Valhalla, NY

**Introduction:** Canadian post-secondary campuses are densely-populated communities and the first home-away-from-home to many students participating in various academic programs, new social activities, and on-campus athletic activities. The diversity of on-campus activities combined with the high-stress of academic programs results in illness and injury rates that may increase the strain on emergency medical systems. Existing on some campuses for more than 30 years, campus emergency medical response teams (CEMRTs) address the need for a local emergency medical service that can provide first-aid in low-acuity situations and rapid response to high-acuity emergencies. In Canada, many student-run volunteer-responder CEMRTs exist but the range of their service capabilities, operations, and their call-volumes have not been described previously. This study aims to fill this knowledge gap. **Methods:** We surveyed the 30 known campus emergency medical response teams identified through membership in the Canadian Association of Campus Emergency Response Teams. The 32-question survey asked information on their level of training (standard first aid [SFA], first responder [FR], emergency medical responder [EMR]), service operations including call volume, and funding model. This study was approved by the Western University Institutional Review Board. **Results:** Twenty-four teams completed the survey (80%); the majority of which are located in Ontario (70%, 16 teams). One team reported that they are no longer in operation. Eleven teams (48%) have medical directors. Nine teams (39%) reported responding to ≤100 calls/year, 11 teams (48%) reported 100-500 calls/year, and 3 teams (13%) reported >500 calls/year. Responders of two teams (9%) maintain training at SFA level; 14 teams (61%) have some or all responders with FR training; and 6 teams (26%) have some or all members certified at EMR level. Twenty-one teams (91%) are equipped with AEDs and 19 teams (83%) are equipped with oxygen. Common medications carried include epinephrine (13 teams, 57%), naloxone (12 teams, 52%), and acetylsalicylic acid (9 teams, 39%). **Conclusion:** Canadian post-secondary campuses have highly-active student-run volunteer CEMRTs. Considerable variability in the services provided may reflect the unique needs of the campuses they serve. CEMRTs may reduce low-acuity case demand on local emergency medical response and emergency department services in some communities; their impact on system demand and costs is the subject of future work.

**Keywords:** first responder, pre-hospital care, volunteer

#### P047

##### **Understanding the expert approach to managing frailty in the emergency department**

S. Forrester, BSc, MD, M. Nelson, BA, PhD, MA, S. McLeod, BSc, MSc, D. Melady, BA, MD, MSc, Queen's University, Kingston, ON

**Introduction:** Frailty is a state of vulnerability affecting older adults, and has been associated with adverse events such as increased risk of institutionalization, falls, functional decline, and mortality. Previous research suggests that emergency department (ED) physicians are much less comfortable managing the complex care needs of frail, older adults. The objective of this study was to identify successful

strategies and expert skills that ED physicians possess to optimally manage the frail, older patient. **Methods:** An interpretive descriptive qualitative study was conducted. One of the investigators contacted the site leads of 12 academic and community EDs across Canada to identify ED physicians who they perceived as being highly skilled in the care of frail, older patients. 22 individual physicians were identified and 13 physicians representing 10 EDs were invited to participate in a 30-minute semi-structured interview. Transcripts were coded by two members of the research team. Data collection is ongoing and analyses will occur until thematic saturation. **Results:** All participants indicated they were very comfortable managing the frail, older patient in the ED. Awareness of issues related to this patient population were triggered by both clinical and personal experiences, as well as institutional priorities. When asked how they developed their specific skills for this patient population, participants stated they received limited formal training during residency and early practise, but relied on situational learning, access to role models and engagement in self-directed learning. Participants identified three predominant management strategies for the care of the frail, older patient: thorough patient interaction at the start of the clinical encounter to maximize efficiency; engaging in teamwork to manage complex issues; and early involvement of the family/caregivers. Interestingly, not all participants used the term frailty, however most reflected principles of the concept in their discussion. **Conclusion:** Currently, principles of caring for frail, older adults are not widespread in emergency medicine residency training. These findings suggest that frailty care frequently requires an alternative clinical approach, which is often derived from personal experience, self-directed and experiential learning. Future educational initiatives should derive, implement and evaluate a wide-spread curriculum to teach the skills required to optimally care for these patients. **Keywords:** emergency medicine, frailty, geriatrics

#### P048

##### Current practices of management for mild traumatic brain injuries with intracranial hemorrhage

É. Fortier, V. Paquet, M. Émond, MD, MSc, J. Chauny, MD, MSc, S. Hegg, PhD, C. Malo, MD, MSc, P. Carmichael, J. Champagne, MD, C. Garipey, MD, MSc, Laval University, Québec, QC

**Introduction:** The radiological and clinical follow-up of patients with a mild traumatic brain injury (mTBI) and an intracranial hemorrhage (ICH) is often heterogeneous, as there is no official guideline for CT scan control. Furthermore, public sector health expenditure has increased significantly as the number of MRI and CT scan almost doubled in Canada in the last decade. Therefore, the main objective of this study was to describe the current management practices of mTBI patients with intracranial hemorrhage at two level-1 trauma centers. **Methods:** Design: An historical cohort was created at the CHU de Québec – Hôpital de l'Enfant-Jésus (Québec City) and Hôpital du Sacré-Coeur (Montréal). Consecutive medical records were reviewed from the end of 2017 backwards until sample saturation using a standardized checklist. **Participants:** mTBI patients aged  $\geq 16$  with an ICH were included. **Measures:** The main and secondary outcomes were the presence of a control CT scan and neurosurgical consultation/admission. **Analyses:** Univariate descriptive analyses were performed. Inter-observer measures were calculated. **Results:** Two hundred seventy-four patients were included, of which 51.1% (n = 140) came from a transfer. Mean age was 60.8 and 68.9%

(n = 188) were men. Repeat CT scan was performed in 73.6% (n = 201) of our patients as 12.5% showed a clinical deterioration. The following factors might have influenced clinician decision to proceed to a repeat scan: anticoagulation (association of 87.1% with scanning; n = 27), antiplatelet (84.1%; 58), GCS of 13 (94.1%; 16), GCS of 14 (75%; 72) and GCS of 15 (70.2%; 111). 93.0% (n = 254) of patients had a neurosurgical consultation and only 6.7% (17) underwent a neurosurgical intervention. **Conclusion:** The management of mild traumatic brain injury with hemorrhage uses a lot of resources that might be disproportionate with regards to risks. Further research to identify predictive factors of deterioration is needed.

**Keywords:** intracranial hemorrhage, management, mild traumatic brain injuries

#### P049

##### Post-intubation sedation in the emergency department: a survey of national practice patterns

S. Freeman, MD, M. Columbus, PhD, T. Nguyen, PhD, S. Mal, MD, J. Yan, MD, MSc, Western University, London, ON

**Introduction:** Endotracheal intubation (ETI) is a lifesaving procedure commonly performed by emergency department (ED) physicians that may lead to patient discomfort or adverse events (e.g., unintended extubation) if sedation is inadequate. No ED-based sedation guidelines currently exist, so individual practice varies widely. This study's objective was to describe the self-reported post-ETI sedation practice of Canadian adult ED physicians. **Methods:** An anonymous, cross-sectional, web-based survey featuring 7 common ED scenarios requiring ETI was distributed to adult ED physician members of the Canadian Association of Emergency Physicians (CAEP). Scenarios included post-cardiac arrest, hypercapnic and hypoxic respiratory failure, status epilepticus, polytrauma, traumatic brain injury, and toxicology. Participants indicated first and second choice of sedative medication following ETI, as well as bolus vs. infusion administration in each scenario. Data was presented by descriptive statistics. **Results:** 207 (response rate 16.8%) ED physicians responded to the survey. Emergency medicine training of respondents included CCFP-EM (47.0%), FRCPC (35.8%), and CCFP (13.9%). 51.0% of respondents work primarily in academic/teaching hospitals and 40.4% work in community teaching hospitals. On average, responding physicians report providing care for  $4.9 \pm 6.8$  (mean  $\pm$  SD) intubated adult patients per month for varying durations (39.2% for 1–2 hours, 27.8% for 2–4 hours, and 22.7% for  $\leq 1$  hour). Combining all clinical scenarios, propofol was the most frequently used medication for post-ETI sedation (38.0% of all responses) and was the most frequently used agent except for the post-cardiac arrest, polytrauma, and hypercapnic respiratory failure scenarios. Ketamine was used second most frequently (28.2%), with midazolam being third most common (14.5%). Post-ETI sedation was provided by  $> 98\%$  of physicians in all situations except the post-cardiac arrest (26.1% indicating no sedation) and toxicology (15.5% indicating no sedation) scenarios. Sedation was provided by infusion in 74.6% of cases and bolus in 25.4%. **Conclusion:** Significant practice variability with respect to post-ETI sedation exists amongst Canadian emergency physicians. Future quality improvement studies should examine sedation provided in real clinical scenarios with a goal of establishing best sedation practices to improve patient safety and quality of care.

**Keywords:** post-intubation, sedation