

sampled: airway management, O2 delivery, team organization and assessment/treatment of cardiac arrest. **Conclusion:** This initiative is the first time high-fidelity simulation training has been used with Corrections nurses and the first in-situ simulation in a maximum security institution in Canada. The sessions were well-liked by participants and were assessed as very effective, validating the demand for further implementation of clinical simulation in correctional facilities. **Keywords:** acute care, innovations in EM education, simulation training

P095

Bridging knowledge gaps in anaphylaxis management through a video-based educational tool

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Introduction: Cases of anaphylaxis in children are often not appropriately managed by caregivers. We aimed to develop and to test the effectiveness of an education tool to help pediatric patients and their families better understand anaphylaxis and its management and to improve current knowledge and treatment guidelines adherence. **Methods:** The GEAR (Guidelines and Educational programs based on an Anaphylaxis Registry) is an initiative that recruits children with food-induced anaphylaxis who have visited the ED at the Montreal Children's Hospital and at The Children's Clinic located in Montreal, Quebec. The patients and parents, together, were asked to complete six questions related to the triggers, recognition and management of anaphylaxis at the time of presentation to the allergy clinic. Participants were automatically shown a 5-minute animated video addressing the main knowledge gaps related to the causes and management of anaphylaxis. At the end of the video, participants were redirected to same 6 questions to respond again. To test long-term knowledge retention, the questionnaire will be presented again in one year's time. A paired t-test was used to compare the difference between the baseline score and the follow-up score based on percentage of correct answers of the questionnaire. **Results:** From June to November 2019, 95 pediatric patients with diagnosed food-induced anaphylaxis were recruited. The median patient age was 4.5 years (Interquartile Range (IQR): 1.6–7.4) and half were male (51.6%). The mean questionnaire baseline score was 0.77 (77.0%, standard deviation (sd): 0.16) and the mean questionnaire follow-up score was 0.83 (83.0%, sd: 0.17). There was a significant difference between the follow-up score and baseline score (difference: 0.06, 95% CI: 0.04, 0.09). There were no associations of baseline questionnaire scores and change in scores with age and sex. **Conclusion:** Our video teaching method was successful in educating patients and their families to better understand anaphylaxis. The next step is to acquire long-term follow up scored to determine retention of knowledge.

Keywords: anaphylaxis, education tool

P096

Non-legislative interventions to promote helmet use in adult cyclists: a scoping review

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Introduction: Helmets are effective in preventing brain injury and fatality in cyclists. Methods to promote their use include legislation

and non-legislative interventions (NLI) such as education, social interventions, and subsidies. These have been systematically reviewed and proven effective in pediatric populations. We conducted a scoping review regarding NLIs to promote helmet use amongst adult cyclists.

Methods: We conducted a scoping review of NLIs to promote helmet use amongst cyclists age 18 or older. PRISMA guidelines were followed. Databases searched included MEDLINE, EMBASE, CINAHL, PsycINFO, and SportDiscus, in addition to grey literature. Articles were excluded if non-English, focused on age <18, on legislative interventions, or did not report on outcomes related to helmet use or ownership. Study inclusion and data extraction were conducted in duplicate. Data were extracted regarding participant demographics, setting, intervention details and effects, and were reported using descriptive statistics with a narrative synthesis. A limited quality assessment was conducted. **Results:** A total of 16 papers were included, stratified as 4 randomized-controlled trials and 12 pre-post studies. Only 4 were specific to adults. Community cyclists (5/16, 31%) and community members were most commonly targeted, with most interventions taking place in the community (8/16, 50%) or in a healthcare setting (4/16, 25%). Most interventions were multi-faceted, involving components of community awareness programs, education, information distribution, helmet giveaways and monetary incentives, use of mass media, motivational interviewing, and social marketing. The studies were heterogeneous in quality. Changes in helmet rate use varied between -6% and 26%, with half the studies (8/16, 50%) noting a statistically significant increase. Duration of follow-up of helmet use rates following the intervention varied between 4.5 weeks and 11 years (median 1.38 years, mean 3.0 years.) **Conclusion:** NLIs to encourage bicycle helmet use were frequently multi-faceted and generally associated with an increase in use amongst adults. Studies were heterogeneous in quality, varied in their targeted audiences and often not focused on adults. Further evidence is needed to better characterize the efficacy of non-legislative interventions to achieve sustained helmet use in adult cyclists.

Keywords: bicycle helmet, cycling, head injury

P097

The emergency department experience for patients and caregivers referred from an outpatient oncology clinic

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Introduction: Outpatient oncology clinics have become the mainstay of cancer treatment, but their limited services and hours of operation often lead to emergency department (ED) referrals. With Canada's aging population and cancer survival rates improving, cancer-related ED visits are becoming a significant aspect of emergency medicine. A cancer-related visit to the ED is associated with unique challenges for patients, their caregivers and clinicians. This study focuses on understanding the ED experience of patients and their caregivers sent from an outpatient oncology clinic to a separate affiliated large academic hospital. **Methods:** A descriptive, phenomenological study of interviews was conducted using the method of Giorgi. The sample included 12 participants (n = 9 patients, 3 caregivers) referred to the ED at a large academic hospital (i.e., Toronto General Hospital, TGH) following a same-day outpatient oncology appointment at an affiliated cancer centre (i.e., Princess Margaret Hospital, PMH). Interviews continued until thematic saturation. All transcripts were analyzed by 2 reviewers with bracketing to ensure accuracy. **Results:** Four themes were identified from analysis: (1) communication; (2)

expectations; (3) care and symptom management and (4) potential improvements. Overall patients and caregivers felt communication between PMH and TGH, and from providers could have been better. Many felt there was a break-down in communication as they did not expect to go through the usual ED triage process, which caused additional anxiety and frustration with the wait times. The majority felt their symptoms were managed in a timely manner and reported the staff to be friendly, caring and professional; however, often felt forgotten and anxious due to a lack of “checking-in”. Their experience could have been improved by receiving more information on the process, a more welcoming environment and separate waiting area or private room for those who are immunocompromised. **Conclusion:** Although referral from an outpatient oncology clinic to the ED of an affiliated hospital is a common process within Canada, this is the first study to explore the patient and caregiver experience. Understanding the patient and caregiver experience is valuable for identifying quality improvement initiatives. Our analysis revealed the patient and caregiver experience could be improved with better communication and expectation setting regarding the ED process before and throughout the visit.

Keywords: cancer, emergency department, patient experience

P098

Patterns of utilization and time-course of events for cancer-related emergency department visits following same-day outpatient oncology appointments

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Introduction: Nearly 50% of Canadians will develop cancer in their lifetime (1), and the vast majority of those with cancer will visit the emergency department (ED) in their last 6 months of life (2). Considering the aging population, improvement in cancer survival and current practice of managing cancer in outpatient settings, cancer-related emergencies are becoming a significant aspect of emergency medicine. The presenting symptoms and rates of hospitalization for cancer-related ED visits have largely been established. The current study characterizes the patterns of ED utilization and time-course of events for cancer-related ED visits following same-day outpatient oncology appointments resulting in admission to hospital compared to those not admitted. **Methods:** A retrospective chart-review was used to identify 231 adult patients who visited the ED at a large academic hospital (i.e., Toronto General Hospital) following a same-day outpatient oncology appointment at an affiliated cancer centre (i.e., Princess Margaret Hospital) from March to May 2019, using administrative data. **Results:** All visits occurred on weekdays (avg = 4 visits/d) and 57% of visits resulted in hospitalization. Between those admitted and not admitted to hospital, there was no difference in triage time [17:23 + 0:14 vs. 17:01 + 0:20 h, $p = 0.47$; mean(SD)]. Visits resulting in hospitalization were more urgent (median CTAS score = 2 vs. 3, $p < 0.001$) and required more consultation services (64 vs. 17 % of visits, $p < 0.001$), but did not differ for imaging (36 vs. 33 % of visits, $p = 0.63$). The length of stay in the ED was longer for those admitted [16.6(0.9) vs. 5.3(0.3) h, $p < 0.01$], they waited longer for their initial assessment [2.6(1.9) vs. 1.8(1.3) h, $p < 0.01$] and spent 10.1(9.9) h waiting for a bed on the ward. There was no difference in time from initial assessment to disposition, imaging or consult reports ($p > 0.05$) between groups. The patients

transferred from oncology clinics were triaged at 17:13(0:11) h compared to 13:56(0:03) h for all ED visits during the same time frame. **Conclusion:** Most patients sent from oncology clinics to the ED are admitted, and when admitted they spend an additional 10 h waiting for a bed on the ward. These patients tend to arrive later in the day compared to other ED patients. Understanding utilization patterns and time-course of events allows for objective identification of quality improvement initiatives. 1 Canadian Cancer Society, 2015 2 Barbera et al. CMAJ, 2010

Keywords: cancer, emergency department, oncology

P099

Extending the trimodal distribution of death; trauma patients die at increased rates after discharge. Linking trauma registry data to vital statistics and hospital datasets identifies opportunities to save life

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Introduction: The New Brunswick Trauma Registry is a database of injury admissions from eight hospitals throughout the province. Data tracks individuals in-hospital. By linking this information with vital statistics, we are able to observe outcomes post-discharge and can model health outcomes for participants. We want to know how outcomes for trauma patients compare with the general population post discharge. **Methods:** Using data from 2014-15, we followed over 2100 trauma registry observations for one year and tracked mortality rate per 1,000 people by age-group. We also compared the outcomes of this group to all Discharge Abstract Database (DAD) entries in the province (circa. 7500 total). We tracked mortality in-hospital, at six months, and one year after discharge. We truncated age into groups aged 40-64, 65-84, and 85 or older. **Results:** In-hospital mortality among those in the trauma registry is approximately 20 per 1,000 people for those age 40-64, 50 per 1,000 people for those aged 65-84, and 150 per 1,000 people aged 85 or older. For the oldest age group this is in line with the expected population mortality rate, for the younger two groups these estimates are approximately 2-4 times higher than expected mortality. The mortality at six-month follow-up for both of the younger groups remains higher than expected. At one-year follow-up, the mortality for the 65-84 age group returns to the expected population baseline, but is higher for those age 40-64. Causes of death for those who die in hospital are injury for nearly 50% of observations. After discharge, neoplasms and heart disease are the most common causes of death. Trends from the DAD are similar, with lower mortality overall. Of note, cardiac causes of death account for nearly as many deaths in the 6 months after the injury in the 40-64 age group as the injury itself. **Conclusion:** Mortality rates remain high upon discharge for up to a year later for some age groups. Causes of death are not injury-related. Some evidence suggests that the injury could have been related to the eventual cause of death (e.g., dementia), but questions remain about the possibility for trauma-mitigating care increasing the risk of mortality from comorbidities. For example, cardiac death, which is largely preventable, is a significant cause of death in the 40-64 age group after discharge. Including an assessment of Framingham risk factors as part of the patients rehabilitation prescription may reduce mortality.

Keywords: epidemiology, mortality, trauma