cases occurring in the ED. Efforts to strengthen communication skills may enhance patient safety and reduce medico-legal risk.
Keywords: communication, emergency department, patient safety

LO67

Alcohol-related emergency department visits by youth aged 12-24: demographics and resource utilization at Kingston Health Sciences Centre

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Introduction: Recent evidence shows an increase in alcohol-related emergency department (ED) visits among youth. We sought to quantify the impact of ED visits (type and frequency, patient characteristics and resource use) related to alcohol in our centre. **Methods:** This was a chart review of patients aged 12-24 with alcohol-related ED visits between Sept 2013-Aug 2017. The National Ambulatory Care Reporting System (NACRS) database was searched for visits alcohol related ICD-10 codes. The Canadian Hospital Injury Reporting and Prevention Program (CHIRPP) database was also searched using the keyword alcohol. Duplicate visits were removed. Visits were excluded if patients had a history of psychosis, were held in the ED for psychiatric assessment, were homeless, were inmates from a correctional institute, if alcohol use was not mentioned and for complaints of sexual assault/intimate partner violence. Data was abstracted by two reviewers using a standard form with predetermined variables. Differences were resolved with third party adjudication. Interrater reliability of the reviewers was assessed with Kappa scores through duplicate review of 10% of randomly selected charts. A further 10% were assessed by a 3rd reviewer for extraction accuracy. **Results:** 3,256 ED visits were identified with 777 removed via predefined exclusion criteria. 2,479 visits were reviewed with a male predominance (54.3%). More than half of all patients (50.9%) arrived via ambulance. Assigned CTAS levels were Resuscitation: 1% Emergent: 9.9% Urgent: 48.2% Less Urgent: 35.7% Non-Urgent: 4.2% (missing 1%). The median LOS was 2.9 hrs (IQR 1.8-4.6). All visits were subclassified into mutually exclusive categories: injury (51.8%), acute intoxication (45.1%) and mental health issue (3.2%). Males were more likely to present with injury (62.4% vs 42.6%, $p < 0.01$). Females were more likely to present with acute intoxication (53.3% vs 46.7%, $p < 0.01$) and mental health issues (59.5% vs 40.5%, $P = 0.01$). ED resource use was notable: 483 (19.4%) had imaging tests and 1216 (49.1%) had some medical intervention (blood test, fluids or medication). 57 (2.3%) patients were admitted and there was one death from an alcohol related MVC. **Conclusion:** Alcohol-related ED visits by youth are common in our centre and utilize substantial prehospital and in-hospital resources. Identification of effective harm reduction strategies should be a research priority.
Keywords: acute alcohol intoxication, substance use/misuse, youth

LO68

Kelowna emergency department buprenorphine/naloxone for opioid use disorder: a program evaluation study

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Introduction: Emergency department (ED) buprenorphine/naloxone inductions for opioid use disorder are an effective and safe way to initiate addictions care in the ED. Kelowna General Hospital's ED buprenorphine/naloxone (KEDSS) program was implemented in September 2018 in order to respond to a community need for accessible and evidence-based addictions care. The objective of our program evaluation study was to examine the implementation of the first five months of the KEDSS program through evaluating patient characteristics and service outcomes. **Methods:** The KEDSS treatment pathway consists of a standardized protocol (pre-printed order set) to facilitate buprenorphine/naloxone induction and stabilization in the acute care setting (ED and inpatient wards) at Kelowna General Hospital, a community academic hospital. All patients referred to the outpatient addictions clinic via the order set during September 2018-January 2019 (the first 5 months) were included in the study population. A retrospective descriptive chart review was completed. Outcome measures included population characteristics (sociodemographic information, clinical characteristics) and service outcomes (number of patients initiated, patient follow-up). Descriptive statistics and bivariate analyses using t-tests or Pearson's $\chi 2$ statistic, as appropriate, were conducted to compare the ED-initiated group with the inpatient-initiated group. **Results:** During the first five months of the KEDSS program, a total of 35 patients (26% female, mean age 36.6 years, 54% homeless) were started on the treatment pathway, 16 (46%) in the ED. Compared to the inpatient-initiated group, the ED-initiated group were less likely to have psychiatric comorbidities (ED 1.0 vs. inpatient 1.5, $p = 0.002$), require methadone or sustained-release oral morphine (ED 13% vs. inpatient 37%, $p = 0.048$), and have attended follow-up (ED 56% vs. inpatient 84%, $p = 0.004$). **Conclusion:** This study provides a preliminary look at a new opioid agonist therapy (OAT) treatment pathway (KEDSS) at Kelowna General Hospital, and provides insight into the population that is accessing the program. We found that the majority of patients who are started on buprenorphine/naloxone in the ED are seen in follow-up at the addictions clinic. Future work will examine ongoing follow-up and OAT adherence rates in the study population to quantify the program's impact on improving access to addictions treatment within this community hospital setting.
Keywords: program evaluation, addictions, buprenorphine-naloxone

LO69

Haloperidol versus ondansetron for hyperemesis due to cannabis (HaVOC): a randomized, controlled clinical trial

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Introduction: One of the most common adverse effects of habitual cannabis use is hyperemesis—recurrent bouts of protracted vomiting, retching and abdominal pain superimposed on a baseline of daily nausea and anorexia. Largely anecdotal evidence supports the use of haloperidol, benzodiazepines or topical capsaicin over traditional antiemetics, yet little is known about the cause or optimal treatment of this newly recognized disorder. We report the results of one of the first clinical trials on so-called cannabis hyperemesis syndrome (NCT03056482). **Methods:** We approached adults with a working diagnosis of hyperemesis due to cannabis, provided they had ongoing emesis for >2 hours, a cyclic pattern of 3+ episodes in the last 2 years, and near daily use of cannabis by inhalation. We excluded those who were pregnant, deemed unreliable, or using opioids. Subjects provided written consent to be randomized during the index or any subsequent visit to either haloperidol (with a nested randomization to either 0.05 mg/kg or 0.1 mg/kg) or ondansetron 8 mg intravenously in a quadruple-blind fashion, and to be followed for 7 days. The primary

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outcome was the average reduction from baseline in abdominal pain and nausea (each measured on a 10-cm VAS) at 2 hours. While the original trial design allowed for crossover, the primary analysis used only the first treatment period since fewer than the prespecified threshold of 20% of subjects crossed over. **Results:** We enrolled 33 subjects, of whom 30 (16 men, 29+/-11 years old, using 1.5+/-0.9 g/day since age 19+/-2 years) were treated at least once (haloperidol 13, ondansetron 17). Haloperidol at either dose was superior to ondansetron (difference 2.3 cm [95%CI 0.6, 4.0]; p = 0.01), with similar improvements in both pain and nausea, as well as less rescue antiemetics (27% vs 61%; p = 0.04), and shorter time to ED departure (3.1+/-1.7 vs 5.6 +/-4.5 hours; p = 0.03 Wilcoxon rank sum). There were two (haloperidol) vs six (ondansetron) return visits for ongoing nausea/vomiting, as well as two return visits for acute dystonia, both in the higher dose haloperidol group. **Conclusion:** Haloperidol is superior to ondansetron for the acute symptomatic treatment of patients with ongoing hyperemesis attributed to habitual cannabis use. The efficacy of this agent over ondansetron provides insight into the mechanism of this new disorder, now almost a daily diagnosis in many Canadian emergency departments.

Keywords: cannabis, cannabis hyperemesis syndrome, hyperemesis

LO70

Emergency department use and migration patterns of people experiencing homelessness

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Introduction: Understanding how homeless patients interact with healthcare systems can be challenging. The nature of the population is such that identifying and following these persons can be severely limited by data. Previous studies have used survey data which relies on self-reporting and selected samples such as those persons admitted to homeless shelters (Gray et al. 2011). Other studies have been able to leverage administrative data but only for selected local geographic areas (Somers et al. 2016, Tompkins et al 2003). It is possible that the current literature has not examined a large proportion of homeless persons and their healthcare use. This is concerning because this population can have higher associated medical costs and greater medical resource utilization especially with regards to psychiatric and emergency department (ED) resources (Tulloch et al. 2012, Forchuk et al, 2015). **Methods:** Administrative health data (2010 to 2017) is used to analyze ambulatory care records for homeless individuals in Ontario, Canada. Uniquely, we are able to use ED contacts as a way of identifying homeless migrations from region to region within Ontario. Using a network analysis we identify high impact ED nodes and discrete hospital networks where homeless patients congregate. We are also able to more fully characterize this population's demographics, health issues, and disposition from the ED. **Results:** We provide a more complete understanding of migration patterns for homeless individuals, across Ontario and their concomitant ED use and hospitalizations. The three most frequented regions in Ontario (n = 640,897) were Toronto Central (35.96%), Hamilton Niagara Halimand Brant (8.9%) and Champlain (7.84%). In subsequent visits, the majority of patients presented to different EDs, however a subgroup who always presented to the same site was present. Over the 7 year period, migration between visits occurred most often between urban areas, and increased as a whole. **Conclusion:** The results of the study allow for the enhancement care coordination for vulnerable populations and enhance the availability and delivery of services for sub-groups of homelessness whose care needs may differ based on migration patterns. Services can be coordinated between jurisdictions for homeless individuals, and appropriate referrals can be made across the health care system. Further evidence is provided for a novel method of mapping migration among the homeless and its associations and effects on ED use.

Keywords: data, homelessness, migration

LO71

The effect of boarding time in ED on length of stay for psychiatric patients

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Introduction: The Emergency Departments (ED) is a gateway to the health care system for many psychiatric patients. As a consequence of hospital administrative factors and overcrowding, admitted psychiatric patients are often boarded in the ED while waiting for an inpatient bed. There is currently a lack of evidence to quantify the effect that ED boarding has on psychiatric patients. The primary objective of this study is to determine whether a patient's length of stay is related to longer ED boarding time. **Methods:** This study is a retrospective cohort using data from an administrative source, which was obtained from patient records captured in the Sunrise Clinical Manager EMR used across Calgary, Alberta EDs from 2014-2018. A hierarchical Bayesian regression analysis was used to model the several patient-level and hospital-level factors. The mean and variance was defined by the exposure of interest, namely hours in the Emergency Department after admission to psychiatry unit expressed as a continuous variable. An interaction between this exposure and patient-level confounders was used to model the changing effect of a patient's severity in the ED on their boarding time. **Results:** The median boarding time for patients in our study was 6.6 hours (standard deviation 17.3), while the average was 13.6 hours. Patients who were boarded for greater than 6 hours more frequently required an antipsychotic (37% vs 11%; SMD 0.651), sedative (52% vs 29%; SMD 0.483) or restraints (18% vs. 14%; SMD 0.102). In crude analysis there was no difference in median length of stay for patients that were boarding more than 6 hours compared to those boarded for less than 6 hours (8 days vs 9 days; SMD 0.012).The rate ratio for length of stay is 1.05 with 95% posterior interval 1.04 - 1.06 for each 24 hour increase in boarding time. This means that for each 1 day worth of boarding time, the length of stay (in days) increases 1.05 times (or 0.05 days/day boarding time). **Conclusion:** Boarding time is associated with a small but absolute increase in length of stay for psychiatric patients. Decreasing boarding time could have ripple effects for ED efficiency and overall patient outcomes.

Keywords: boarding time, length of stay, psychiatry

LO72

Spotting potential opportunities for teachable moments

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Introduction: With the transition of Emergency Medicine into competency based medical education (CBME), entrustable professional activities (EPAs) are used to evaluate residents on performed clinical duties. This study aimed to determine if implementing a case-based orientation, designed to increase recognition of available EPAs, into CBME orientation would help residents increase the number of

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