MP59

Exploring adverse events in boarded psychiatric patients in Calgary zone adult emergency departments

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Introduction: Adult Emergency Departments (EDs) in Calgary are facing a crisis of boarded patients admitted to psychiatric in-patient units. In psychiatric emergency care, "boarding" describes the holding of patients in the ED after the decision to admit has been made by a staff psychiatrist and a bed request has been submitted. Literature review suggests psychiatric patients face exorbitantly higher boarding times than any other service in the hospital however little is published on the nature of these adverse events. Examples of adverse patient events from a psychiatric perspective could include: the need to initiate mechanical and/or chemical restraints after admission and while still in the ED, attempts to self-harm, and verbal and physical assault on ED staff. **Methods:** This study quantifies the incidence of adverse events experienced by psychiatric patients while boarded in the ED. It uses a retrospective chart review of all adult psychiatric patients, age 18 - 55yo, who presented to one of four adult EDs and who were admitted to a psychiatric in-patient unit in the Calgary Zone between January 1, 2019 and May 15, 2019. A randomly generated convenience sample identified 200 patients, 50 from each site, for in-depth review. **Results:** During the study time period, 1862 adult patients were admitted from emergency departments to the psychiatry service across all four sites. Of the 200 charts reviewed, patients ranged in age from 26-41 (average 34). 52.5% were male with the majority being admitted to a non-high observation bed. The average boarding time was 23.5 hours with an average total ED length of stay of 31 hours for all comers. Those who experienced an adverse event while boarded in the ED experienced a significantly prolonged average boarding time (35 hours) compared to those who did not experience an adverse event (6.5 hours) ($p = 0.005$). Significant adverse events were associated with the specific hospital site and the type of admission bed needed (high observation versus normal versus short stay) ($p < 0.05$). **Conclusion:** Psychiatric patients boarded in Calgary EDs experience a number of significant adverse events. The importance of understanding the reality of the conditions that psychiatric ED patients face while waiting for in-patient placement cannot be overstated. This study is important to emergency medicine as it will allow for deeper understanding of the patient experience while in the ED and identifies areas that may require further advocacy amongst ED staff and our psychiatry colleagues.

Keywords: adverse event, boarding, psychiatric emergency

MP60

Application of routinely collected administrative data to track demographic and mental health characteristics of people experiencing homelessness

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Introduction: People experiencing homelessness have complex psychiatric and medical presentations, and have poor access to primary care. Thus, emergency departments (EDs) often become their main point of healthcare contact. Using routinely collected administrative data from EDs, we examine the ED utilization, health and reasons for presentations of people experiencing homelessness.. **Methods:** All routinely collected administrative health data from EDs located within Ontario, Canada from 2010-2017 were analyzed. Individuals experiencing homelessness were identified by a marker that was adopted in 2009 replacing their recorded postal code with an XX designation. Outcomes include number of unique patients, number of visits and repeat visits, CTAS scores, ambulance utilization, and type of ICD-10 presentation. **Results:** 640,897 visits to the ED over 10 years were made by 39,525 unique individuals experiencing homelessness. A visit to an ED by a homeless patient resulted in repeat presentation on the same day 5% of the time. The median repeat presentation to an ED was 14 days. In people experiencing homelessness, the most prevalent category of presentations were primary mental health diagnoses, accounting for 34.8% of visits (n = 223,392). Under mental health conditions, psychoactive substance use presentations made up more than 54% of the presentations (n = 121,112). Alcohol was by far the most common cause of substance use/induced disorders (n = 84,805). **Conclusion:** Applications of administrative data presents a novel method of measuring health and healthcare outcomes for marginalized populations. We found people experiencing homelessness are presenting to ED more frequently in Ontario, with significant mental health and addiction problems. Our study identifies several important health vulnerabilities within the population, which may serve as potential targets for future interventions.

Keywords: data, health characteristics, homelessness

Poster Presentations

P001

Proof-of-principle in a large animal pilot: cardiac arrest may be associated with acute, transient coagulopathy that may drive post-cardiac arrest syndrome

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Introduction: Many cardiac arrest survivors die later due to hemorrhage or thromboembolism, thought to be caused by acquired coagulopathy in post-cardiac arrest syndrome (PCAS) from shock and reperfusion injury. Understanding PCAS is a priority identified by the AHA for the prevention of complications in cardiac arrest survivors. Shock dysregulates both coagulation and fibrinolysis. The key effector enzyme thrombin (Th), is responsible for both up- and down-regulating coagulation and fibrinolysis. Measuring early Th activity may allow for predicting PCAS coagulopathy, and early medical intervention in the ED. Therefore, we aimed to characterize the time-course profile of early coagulation using an established pig model of cardiac arrest. **Methods:** Yorkshire pigs were anaesthetised and intubated, had VF-arrest induced by pacing, and were resuscitated per ACLS. Rotational thromboelastometry (ROTEM) was performed on whole blood at four times: baseline, intra-arrest, post-arrest, and death, using the fibrin-based test with tissue factor to initiate clotting in the presence of a platelet inhibitor cytochalasin D (FIBTEM). Clot time (CT), clot formation time (CFT), alpha-angle during clot formation (Alpha), clot amplitude at 10 min (A10), maximum clot firmness (MCF), and maximum lysis as total percentage (ML%) were quantified. The primary outcome is the overall coagulation initiation measured by CFT, while secondary outcomes include ROTEM parameters reflecting Th activity. Parameters are compared over time in SPSS using repeated measures ANOVA and Bonferroni correction. **Results:** Pilot data from one experiment show that cardiac arrest causes immediate early changes to coagulation that subsequently normalized with ROSC (Figure 1). CFT was impaired immediately

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