procedures have been developed, including evidenced-based pathways for further therapy, advanced imaging, and subspecialized disposition planning. Clinical services meet quarterly, and review dashboard summary data on clinical adverse events, resource utilization, and time data of patient flow to revise PE care pathways. **Evaluation/Results:** PERT activations occur approximately 2 times weekly. Adherence to operating procedures is high. Feedback post implementation cites improved adherence to evidence-based practice, clearer communication, and faster patient disposition. Quantitative analysis of performance is limited by infrequency of cases. **Discussion/Impact:** Our project shows feasibility of a PERT service. Pre-implementation data is collected, and we are currently measuring these post. We suspect signal of improved patient-oriented outcomes will be detected with more cases.

Keywords: pulmonary embolism, quality improvement and patient safety, thrombosis

P021

A novel way of hiding beds: manipulating wait time predictions to alter future patient flows into the ED

S. Strobel, BA, MD, Cornell University, Ithaca, New York, USA

Introduction: Wait time predictions have become more common in emergency departments in Canada. These estimate the wait times a patient faces to see providers and they are usually provided in an accessible way such as through an online interface. One purpose of these trackers is to improve ED system efficiency. Patients can self-triage to alternative care such as their primary care physician, defer care until a later time or could move from oversubscribed to undersubscribed EDs. However, these mechanisms could also be abused. If providers can artificially influence the wait time this may provide a possible lever to change patients flows to an ED. I investigate whether there is evidence suggestive of manipulation of online wait time trackers at an ED system in Ontario. **Methods:** Inputs into the wait time prediction algorithm, like patient volumes are taken from the ED EMR. This is the most likely place where staff can manipulate the wait time tracker by retaining patients in the EMR system even after they are discharged. I examine two sets of data to assess whether the online tracker displays differences in patient volumes from "true" data. The first is scraped data of patient volumes from the wait times website. The second are the accurate patient volumes from administrative data which includes when a physician discharged patients from the ED. I compare values of the true patient volumes to the online values and plot distributions of these differences. I also employ measures of accuracy such as mean square error and root mean square error to provide a value of how accurate the online data is compared to the true data. I examine these by ED and over time. **Results:** There are differences between the number of patients that are posted online and those in the administrative data. The distributions of these differences are skewed towards positive values suggesting that the online data more often overcounts rather than undercounts patients. Measures of accuracy increase during times when EDs are congested but do not decrease when EDs become less congested. This inaccuracy persists for a period after EDs cease to be busy. **Conclusion:** ED wait time trackers have the potential to be manipulated. When staff have incentive to reduce patient volumes, online data becomes more inaccurate relative to true data. This suggests that wait time trackers may have unintended consequences and that the information that they provide may not be entirely accurate.

Keywords: machine learning, predictions, wait times

P022

Use of police and SAR records to identify cases and reduce survivorship bias in prehospital care research

D. Stephanian, BA, MSc, J. Brubacher, BSc, MD, MSc, University of British Columbia, Vancouver, BC

Introduction: Evidence based medical practices are limited in prehospital care. A 2006 National Academies report on the state of prehospital care indicates that as little as 4% of prehospital care is evidence based. Retrospective case reviews are inexpensive studies that can effectively evaluate current practices and identify opportunities for improvement. Commonly, retrospective reviews in prehospital care rely on electronic health records from hospitals and emergency health services. These data sources suffer from three limitations; survivorship and inclusion biases, a lack of control cases, and difficulty identifying unusual etiologies in databases. Police and search and rescue records are uncommon but promising data sources for certain topics **Methods:** To test our methodology, we investigated outcomes of suicide attempts by jumping from bridges in Vancouver. We identified patients who threatened, attempted, or jumped from bridges >12m between 2006 and 2017. We describe the population, mortality and adverse outcomes, and identify factors differentiating survivors from fatalities. Police and Coast Guard (CG) records were searched to identify cases. Corresponding records from ambulance, hospitals, and the coroner were identified using date, time, and patient age and sex. Linked records were reviewed and key data extracted. **Results:** 1208 cases were identified, outcomes were positively identified for 90.3%. 273 were confirmed jumps. 78.2% of ambulance, 90.0% of hospital, and 93.6% of coroner records were identified and linked to corresponding police and CG records. By contrast, an independent search of ambulance records yielded a 99.42% false positive rate, and independent searches of hospital records were not possible due to technological limitations in patient data collection and storage tools. Further, of 197 cases where patients jumped into water, 94 were attended to by EHS, and 52 were transported to hospital. **Conclusion:** Police and CG records effectively identified patients. Without these data sources, identifying most cases would not have been possible. Since a majority of patients were not transported to EHS or hospital, linking data from these agencies to the hospital and EHS records limited survivorship bias. This methodology may be valuable in future prehospital and ED research, especially for topics with high likelihood of police or SAR contact like suicide attempts or avalanche burials.

Keywords: bias, data, prehospital

P023

Development of a Canadian Global Health Emergency Medicine (GHEM) Certificate Program based on established best practices

R. Stefan, MD, MSc, J. Maskalyk, MD, L. Puchalski Ritchie, MD, PhD, M. Salmon, MD, MPH, M. Landes, MD, MSc, University of Toronto, Toronto, ON

Innovation Concept: Global health fieldwork is valuable for Canadian residents, but is often trainee-organized, short-term, unsupervised, and lacking in preparation and debriefing. In contrast, we have developed a Certificate Program which will be offered to University of Toronto (UofT) emergency medicine (EM) trainees in their final year of residency. This 6-month Program will complement the Transition to Practice stage for residents interested in becoming leaders in GHEM. **Methods:** We completed a multi-phase needs

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assessment to inform the structure and content of a GHEM Certificate Program. Phase 1 consisted of 9 interviews with Program Directors (PDs), Assistant PDs, and past fellows from existing GH fellowships in Canada and USA to understand program structure, curriculum, fieldwork and funding. In Phase 2 we interviewed 4 PDs and fellows from UofT fellowship programs to understand local administrative structures. In Phase 3 we collected feedback from 5 UofT residents and 7 faculty with experience in global health to assess interest in a local GHEM Program. All interview data was reviewed and best practices and lessons learned from key stakeholders were summarized into a proposed outline for a 6-month GHEM Certificate Program. **Curriculum, Tool, or Material:** The Program will comprise of 1) 3 months of preparatory work in Toronto followed by 2) 3 months of fieldwork in Addis Ababa, Ethiopia. Fieldwork will coincide with activities under the Toronto-Addis Ababa Academic Collaboration in Emergency Medicine (TAAAC-EM). The GHEM trainee's work will support TAAAC-EM activities. Preparatory months will include training in specific competencies (POCUS, teaching, tropical medicine, QI) and meetings between the trainee and a UofT mentor to design an academic project. During fieldwork, the trainee will do EM teaching (75% of time) and complete their academic project (25% of time). A UofT supervisor will accompany, orient and supervise the trainee for their first 2 weeks in Addis. Throughout fieldwork, the trainee will be required to debrief with their UofT mentor weekly for academic and clinical mentoring. One AAU faculty member will be identified as a local supervisor and will participate in all evaluations of the trainee during fieldwork. **Conclusion:** This Program will launch with a call for applications in July 2021, expecting the first trainee to complete the Program in 2022-23. We anticipate that this Program will increase the number of Canadian EM trainees committed to global health projects and partnerships throughout their career.
Keywords: global health, innovations in EM education, postgraduate education

P024

A retrospective chart review of the length of stay of patients presenting to the emergency department with a drug overdose

R. Soegtrop, BSc, MD, K. Van Aarsen, MSc, M. Columbus, PhD, A. Dong, MD, Western University, London, ON

Introduction: Patients who present to the Emergency Department (ED) with a drug overdose often require long periods of monitoring. After their initial assessment and stabilization, they spend a significant amount of time in a high cost acute care bed in the ED for monitoring until they are medically cleared for psychiatric care or to be discharged. The shift length at this ED is a maximum of 8 hours; meaning any patients staying over 8 hours must be handed over between physicians, increasing the chance of medical errors. The objective of this study is to examine the total ED length of stay (LOS) of this patient group after physician initial assessment (PIA) to determine if there is there justification for the creation of a toxicology observation or short-stay unit for these patients. **Methods:** A single-centre, blinded retrospective chart review was conducted examining all adult patients presenting to the ED at an urban academic tertiary care centre with a drug overdose in 2018. Variables examined include: Disposition (home, admitted to acute care setting, admitted to non-acute care setting), time from PIA to disposition and total length of stay from PIA to discharge home or admission to hospital. The primary outcome is total length of stay in the ED after PIA.M **Results:** A total of 1006 patients presenting with an overdose were included. A total of 388 patients were admitted with 44% (172) having an ED LOS greater than 8 hours and 36% (138) staying 8 hours after PIA. The median [IQR] LOS in the ED for all patients was 343 minutes [191-565] while the median [IQR] time to PIA was 37 minutes [15-97]. The majority of these patients (54%) were discharged with no consulting services involved, 23% received a consult to psychiatry, 22% were consulted to internal medicine and 5% of patients were consulted to Critical Care Medicine. **Conclusion:** This demonstrates patients presenting to the ED with an overdose are seen in the ED by a physician quickly, however many stay in the department over 5 hours from their initial assessment in a monitored setting. While a majority of these patients are able to go home, 44% of admitted patients wait greater than 8 hours in the ED on monitors. The creation of a toxicology observation unit would be helpful for this population to increase patient safety and ease ED bed congestion.
Keywords: length of stay, overdose, toxicology

P025

Checking the pulse in the 21st century: inter-observer reliability of carotid pulse detection by point-of-care ultrasound

D. Smith, MD, J. Chenkin, MD, MEd, R. Simard, MD, University of Toronto, Toronto, ON

Introduction: Detection of a pulse is crucial to decision-making in the care of patients who are in cardiac arrest, however, the current standard of manual pulse palpation is unreliable. An emerging alternative is the use of point-of-care ultrasound (POCUS) for direct assessment of the carotid pulse. The primary objective of this study is to determine the inter-observer reliability for healthcare provider interpretation of the carotid pulse by POCUS in patients who are peri-arrest or in cardiac arrest. **Methods:** We conducted a web-based survey of healthcare providers. Participants were shown a tutorial demonstrating POCUS detection of the carotid pulse and then asked to interpret 15 carotid pulse ultrasound clips from patients who were peri-arrest or in cardiac arrest. The primary outcome was inter-observer reliability for carotid pulse assessment. Secondary outcomes included inter-observer reliability stratified by healthcare provider role and POCUS experience, mean tutorial duration, mean pulse assessment duration, rate of pulse assessments < 10 seconds, and change in participant confidence before and after the study. Inter-observer reliability was determined by Krippendorff's α. Change in participant confidence was determined by Wilcoxon signed-rank test. **Results:** 68 participants completed our study, with a response rate of 75% (68/91). There was near perfect inter-observer reliability for pulse assessment amongst all study participants (α=0.874, 95% CI 0.869, 0.879). Senior residents (n = 24) and POCUS experts (n = 6) demonstrated the highest rates of inter-observer reliability, α=0.902 (95% CI 0.888, 0.914) and α=0.925 (95% CI 0.869, 0.972), respectively. All sub-groups had α greater than 0.8. Mean tutorial duration was 31 seconds (SD = 17.5) with maximum duration of 55 seconds. Mean pulse assessment duration was 7.7 seconds (SD = 5.2) with 76% of assessments completed within 10 seconds. Participant confidence before and after the study significantly increased from a median of 2 to a median of 4 on a 5-point Likert-type scale ($z = 6.3$, $p < .001$). **Conclusion:** Interpretation of the carotid pulse by POCUS showed near perfect inter-observer reliability for patients who were peri-arrest or in cardiac arrest. Participants required minimal training and indicated improved POCUS pulse assessment confidence after the study. Further work must be done to determine the impact of POCUS pulse assessment on the resuscitation of patients in cardiac arrest.

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