analyzed using standard descriptive statistics. **Results:** 113 patients met inclusion criteria. Indications for naloxone administration were: level of consciousness (50.5%), respiratory depression (4.0%), miosis (1.0%), a combination of factors (19.8%), or undocumented (24.8%). Median initial dose was 0.40 mg (IQR: 0.20-0.40 mg). Median total naloxone administered in the ED was 0.48 mg (IQR: 0.35-1.2 mg). The initial dose resulted in a response in 43.1% of patients, with 36.0% of responding patients later experiencing subsequent respiratory depression. 31% of patients received a naloxone infusion. Initial dose in patients with cardiopulmonary compromise was significantly different only comparing patients who received CPR versus those who did not (median 0.40 mg; IQR: 0.20-0.80 mg; P = 0.019). Four patients experienced emesis following naloxone. Median length of ED stay was 7.0 hours (IQR: 4.0-9.5 hours), and median hospital length of stay was 3.0 days (IQR: 1.0-5.0 days). Median ED observation time prior to discharge was 4.0 hours (IQR: 2.0-8.0 hours). Ultimate disposition home, to the ward, or to the intensive care unit was 47.1%, 42.2%, and 9.8% respectively (1.0% deceased). **Conclusion:** The dose and usage of naloxone by ED physicians in this study is variable. Further prospective studies are needed to determine the effective naloxone dosing strategy.
Keywords: naloxone, opioid, overdose

P132

Optimizing a physician surge protocol to address emergency department wait times during times of increased patient demand

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Background: Emergency Department overcrowding remains a significant problem. Interventions have often focused on areas external to the ED, with patient flow in the ED receiving less attention. Efforts to address ED flow are complicated by daily fluctuations in patient volume and acuity. Our local protocol brings in additional physicians when internal metrics indicate patient demand can't be met by current physician resources (a 'surge' period). However, anecdotal evidence suggests a lack of satisfaction and efficacy. We therefore undertook a project to improve our local management of these surge periods. **Aim Statement:** To improve the effectiveness of an ED Physician Surge Protocol to allow for a physician scheduling strategy that is reflective of the needs of the ED. **Measures & Design:** This project consists of 3 phases. Phase 1 was an analysis of current surge metrics (including frequency, temporal patterns and physician response), with concurrent literature search to identify any best practices or easily addressable protocol changes, with first planned PDSA cycle. Phase 2 is a mixed methods survey of local staff to identify barriers and enablers of our current protocol, concurrent with a national survey of current practices. Phase 3 will be the implementation of a revised protocol, followed by a second mixed methods survey and analysis of metrics of interest. **Evaluation/Results:** Analysis of surge data (Oct 2018-Oct 2019) demonstrated a high volume of surges per month (78.7 +/- 10.9), highest at Foothills Medical Centre (94.3). Across all sites, afternoon periods had highest frequency of surges (absolute peak 1400 - 1500) with a secondary peak 2200–2300, both peaks occurring most frequently on weekends (Fri-Sun) However, physician response to surge calls was < 10% (5.8-9.1%), with no discernable temporal pattern, even accounting for the significant number of automatic surge calls cancelled by clinicians. Analysis of data, in addition to literature review and engagement with senior administration suggested no immediate protocol changes, therefore project moved to 2nd phase. This phase is currently in progress, with planned analysis using Pareto Chart methodology. **Discussion/Impact:** Our initial data clearly demonstrates that current procedures are inadequate to address this ongoing issue, with no readily apparent solutions. Analysis of local barriers and enablers is currently underway, in addition to a national survey, with the results expected to inform an extensive redesign of current procedures.
Keywords: emergency department flow, emergency department staffing, quality improvement and patient safety

P133

A novel addictions curriculum for emergency medicine residents

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Innovation Concept: In the era of the current opioid crisis, addiction medicine is becoming a core competency of patient care. Despite the prevalence of addiction-related presentations, there is a paucity of formal education on the topic in emergency medicine; with time and lack of qualified staff cited as barriers to implementation. We aimed to correct this gap in education through the curriculum design of an addictions elective that can be easily implemented by Emergency Medicine Program Directors across Canada. **Methods:** Learning objectives were developed based on expert consensus and the list of entrustable professional activities (EPAs) mandated by the Royal College. A local needs assessment was conducted to identify existing addictions curriculum and identify opportunities for improvement. **Curriculum, Tool, or Material:** A one-month block addictions selective was developed specifically for emergency medicine residents. Elements of this curriculum included a suggested schedule, a list of supplemental resources, and an evaluation tool to track EPAs. A pre and post survey was created for distribution to all participants to track knowledge acquisition and to collect feedback on the education intervention. In the 2019-2020 academic year, 4 residents participated in this selective and multiple have expressed interest for the future. **Conclusion:** In Ontario alone, the rate of opioid-related deaths has quadrupled and has escalated to a rate of 2 deaths every day. Alcohol and other substance use is commonly a chief concern, catalyst, or comorbidity for patient presentations in the emergency department. Our selective curriculum seeks to address a gap for emergency medicine residents. Ongoing program evaluation will take place to continue to optimize this learning experience.
Keywords: addictions, innovations in education, opioids

P134

Orthopedic procedural videos as teaching tools in emergency medicine

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Innovation Concept: Video has been proven to be an effective educational tool that is valued by learners and objectively improves knowledge and testing scores. It can simplify complex concepts and is more efficient and effective than audio or reading in tests of 3-day material recall. Our objective in this project was to develop a series of instructional videos geared towards emergency and family physicians on proper application of casts and splints in the emergency department. **Methods:** We created two procedural videos, each 5-6 minutes long. They each reviewed the process, indications, and precise steps for application for each of two splints: the ulnar gutter and the thumb spica. After finalizing the videos, we created a survey

to assess feedback, asking questions about the applicability of the videos to the viewer's clinical practice, how interesting they found the content of the videos, what they liked and disliked, and how willing they would be to access future procedural videos if we were to make them. We also had respondents provide suggestions for topics of future videos. We then sent the videos and accompanying survey to a group of McMaster University medical students, residents, and attending physicians in family medicine and emergency medicine. Upon reviewed the results it seemed that there was a large difference in perceived utility of the videos between attending physicians and trainees, and so we proceeded with subgroup analysis of trainees and staff. **Curriculum, Tool, or Material:** Orthopedic procedural videos as described above. **Conclusion:** Using a 5-point Likert scale, we found that overall trainees (4.3, SD 0.76 CI 0.41) found the videos more useful and interesting than did attending physicians (3.4, SD 0.68 CI 0.37), with respondents commenting that they were very clear and easy to follow for junior trainees. Most respondents also indicated that they would access future videos we made (4.2 SD 0.74 CI 0.39 for trainees, 3.2 SD 0.65 SI 0.34) for attendings). Future directions include making the videos more concise and adding more visual summaries to improve viewership, and targeting videos for specific learner level. We are hoping to implement these videos into future curriculum development for our learners and, if successful, other Emergency Medicine residency programs across Canada.
Keywords: innovations in EM education, procedural skills

P135

Administrative codes for heat illness: a validation study in Ontario, Canada

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Introduction: Extreme heat events due to climate change are becoming increasingly frequent and severe, and may have an impact on human health. Administrative database studies using International Classification of Diseases 10th revision codes (ICD-10) are powerful tools to measure the burden of acute heat illness (AHI) in Canada. We aimed to assess the validity of the coding algorithm for emergency department (ED) encounters for AHI in our region. **Methods:** Two independent reviewers retrospectively abstracted data from 507 medical records of patients presenting at two EDs in Ontario between May-September 2015-2018. The Gold Standard definition of an AHI is chart-documented heat exposure with a heat related complaint, such as syncope while working outdoors on a hot day. To determine ICD coding algorithm positive predictive value (PPV), records that were previously coded as ICD-10 heat illnesses were compared to the Gold Standard for AHI. To determine sensitivity (Sn), specificity (Sp) and negative predictive values (NPV), the Gold Standard was compared to randomly selected records. A total of 326,702 ED visits were included in study period with 208 having an ICD-10 code related to heat illness. Sample size calculation demonstrated a need to manually review 62 previously coded heat illnesses and 931 random cases, of which 50 and 474 have been reviewed, respectively. In both abstractions, 20% of cases underwent a blinded duplicate review. **Results:** In our review of 474 random records, 2 cases were identified as AHI but without an appropriate ICD-10 code, 445 were not AHIs, and no cases had been identified as having an AHI ICD-10 inappropriately applied. In our review of 50 previously coded heat illnesses, 34 were found to be appropriately coded and 16 inappropriately coded, as AHI ICD-10. Average patient age and gender of heat illness vs non-heat illness ED presentations were 32 and 48 years of age and 49% and 64% male, respectively. The leading complaint in AHI was heat stroke/exhaustion (39%), followed by headaches (15%), dizziness (9%), shortness of breath (9%) and syncope/presyncope (6%). 76% of all heat illness presentations presented following a period of physical exertion. **Conclusion:** Final calculation of Sn, Sp, PPV, NPV for the algorithm will occur upon completion of the review. Preliminary results suggest that ICD-10 coding for AHI may be applied correctly in the ED. This study will help to determine if administrative data can accurately be used to measure the burden of heat illness in Canada.
Keywords: coding, heat, validation

P136

What happens to bypassed trauma patients meeting Field Trauma Triage standards?

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Introduction: Prehospital field trauma triage (FTT) standards were reviewed and revised in 2014 based on the recommendations of the Centers for Disease Control and Prevention. The FTT standard allows a hospital bypass and direct transport, within 30 min, to a lead trauma hospital (LTH). Our objectives were to assess the impact of the newly introduced prehospital FTT standard and to describe the emergency department (ED) management and outcomes of patients that had bypassed closer hospitals. **Methods:** We conducted a 12-month multi-centred health record review of paramedic and ED records following the implementation of the 4 step FTT standard (step 1: vital signs and level of consciousness (physiologic), step 2: anatomical injury, step 3: mechanism and step 4: special considerations) in nine paramedic services across Eastern Ontario. We included adult trauma patients transported as urgent that met FTT standard, regardless of transport time. We developed and piloted a data collection tool and obtained consensus on all definitions. The primary outcome was the rate of appropriate triage to a LTH which was defined as: ISS $\geq$12, admitted to intensive care unit (ICU), non-orthopedic surgery, or death. We have reported descriptive statistics. **Results:** 570 patients were included: mean age 48.8, male 68.9%, falls 29.6%, motor vehicle collisions 20.2%, stab wounds 10.5%, transported to a LTH 76.5% (n = 436). 72.2% (n = 315) of patients transported to a LTH had bypassed a closer hospital and 126/306 (41.2%) of those were determined to be an appropriate triage to LTH (9 patients had missing outcomes). ED management included: CT head/cervical spine 69.9%, ultrasound 53.6%, xray 51.6%, intubation 15.0%, sedation 11.1%, tranexamic acid 9.8%, blood transfusion 8.2%, fracture reduction 6.9%, tube thoracostomy 5.9%. Outcomes included: ISS $\geq$ 12 32.7%, admitted to ICU 15.0%, non-orthopedic surgery 11.1%, death 8.8%. Others included: admission to hospital 57.5%, mean LOS 12.8 days, orthopedic surgery 16.3% and discharged from ED 37.3%. **Conclusion:** Despite a high number of admissions, the majority of trauma patients bypassed to a LTH were considered over-triaged, with a low number of ED procedures and non-orthopedic surgeries. Continued work is needed to appropriately identify patients requiring transport to a LTH.
Keywords: bypass, paramedic, trauma