FMC, 441.1 PLC and 705.1 from RGH. The annual FT bed hours for patients with non-admitted back pain (FT bed to time of discharge) was 2144.3 hours from FMC, 3367.9 from PLC and 1134.9 from RGH. **Conclusion:** The efficiency of FT is based on streamlining low acuity patients with an expected rapid discharge from hospital. The results of this investigation will be presented to the FT-Minor Treatment Sub-committee in order to utilize current admission rates, patient profiles, and aggregate LOS to potentially improve throughput.
Keywords: quality improvement, fast track, emergency medicine

P109

Characterizing spontaneous improvements in vasovagal syncope

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Introduction: Syncope is responsible for up to 5% of emergency department visits. Vasovagal syncope (VVS) is the most common subtype and can have significant quality of life implications as it is often recurrent. Clinicians treating VVS have limited treatment options available to them and often struggle with prognostication. The aim of our study was to identify patient-specific determinants of VVS improvement or cessation. **Methods:** Patients (pts) from the Prevention of Syncope Trials (POST) 1 and 2 were included in this study. All patients had VVS according to tilt table testing or a diagnostic point score. Patients had fainted ≥ 1 time in the previous year and all were followed for up to 1 year after enrollment. Data are presented as median (IQR). Complete responders (CR) did not faint in follow-up; partial responders (PR) fainted ≥ 1/year less than prior year but did not stop; and non-responders (NR) did not improve or stop. **Results:** There were 392 patients: 126 males, median age 34 (23,50) who had fainted for 10 (3,22) years and followed for a median of 363 (148,376) days. There were 225 CR (57%), 120 PR (31%) and 47 NR (12%). PR subjects were younger: 27 (24,33) years compared to CR (36 (32,42)) years and NR (36 (29,47)) years (p < 0.05). Receiver operator characteristic analysis showed age predicted PR (AUC = 0.62). Lifetime fainting frequency was 0.67 (0.14,2.00) faints per year, increasing to 4 (2,10) faints in the pre-year and decreasing to 0 (0,1.9) faints in the post-year (p < 0.0001). Pts had similar syncope frequency in the distant past (PR, 1.14 faints/year; CR, 0.68 faints/year; NR, 0.58 faints/year) but PR pts worsened markedly prior to enrollment. PR subjects fainted much more in the prior year: 10 (6,18) faints compared CR (3 (2,3) faints, p < 0.0001) and NR (2 (2,4) faints, p < 0.05). Receiver operator characteristic analysis showed prior year faints predicted PR well (AUC = 0.81). There was no significant interaction with treatment (metoprolol in POST 1, fludrocortisone in POST 2). **Conclusion:** After specialist consultation, 57% of VVS patients stop fainting and 31% improve incompletely without a significant treatment effect. Patients who will improve incompletely can be accurately selected based on younger age and more frequent syncope. Older patients with less frequent syncope are 83% likely to stop fainting. These findings will help counsel pts and select candidates for medical therapy.
Keywords: syncope, prognosis, decision tool

P110

Acute mountain sickness in the Himalayas: preliminary report

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Introduction: Acute Mountain Sickness (AMS) is a high-altitude medical emergency that requires prompt treatment. If left untreated AMS can progress to high-altitude cerebral edema or pulmonary edema, both of which can be fatal. As the popularity of high altitude trekking increases in the Himalayas we were interested in determining what rates of AMS are on popular routes in this region. **Methods:** AMS was diagnosed using a standardized Lake Louise Symptom Score (LLSS) where scores 3-5 denoted mild AMS and >5 denoted severe AMS. Forms were distributed to trekkers prior to departure and symptoms scores were determined daily. Data on medical history and patient demographics were also collected. All data are expressed as mean $\pm$ SEM. **Results:** Preliminary results are reported from N = 17 (4 female) participants. Mean age was 43.7 ± 3.9y. Most subjects, 68.8%, had trekked above 2500 m in the past. Only 6.25% reported having no knowledge of AMS, with the others having limited or expert knowledge. 25% of subjects had previously suffered from AMS. Most subjects, 82.4%, took prophylactic AMS medication, acetazolamide; at a dose of 250 mg/d. Subjects trekked at a mean altitude of 3650 ± 85 m and ascended to a maximum altitude of 5012 ± 103 m. The mean LLSS was 1.48 ± 0.31 with a maximal LLSS of 4.76 ± 0.75. Within our sample, 70.86% suffered from AMS at some point during their trek. Of those who suffered from AMS, the mean number of days affected was 3.17 ± 0.61, and of those with severe AMS, mean number of days affected was 2.14 ± 0.7. **Conclusion:** Over 70% of trekkers to the Himalayas experience AMS for an average of 3d, despite the use of prophylactic medication that most participants take. Almost 95% of trekkers have working knowledge of AMS and most have prior experience trekking at high-altitude. Given the dangers of high altitude trekking, pre-departure education for patients, especially those with chronic diseases, alongside prophylactic medication for AMS may help mitigate the risk.
Keywords: altitude medicine, acute mountain sickness

P111

The social determinants of health in adults presenting to the ED with a mental health complaint

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Introduction: The social determinants of health (SDoH) can play a significant role in a person's overall wellbeing. This is especially true for adults with mental illness and mental health disorders. In this study, we describe the SDoH of patients presenting to an academic, inner-city emergency department (ED) with an acute mental health complaint (AMHC). **Methods:** We prospectively identified and enrolled a convenience sample of patients presenting to an ED with an annual census of 85,000 visits. Participants provided informed written consent, and completed a questionnaire package containing questions related to demographics and SDoH. As well, participants were asked to complete four mental health, quality of life, and recovery validated patient-reported outcome measures. **Results:** A total 108 participants were enrolled in this study, of which 65% were male, aged 37.5 years (IQR 26.7-50.3), 56% Caucasian, and 22% Aboriginal. Depression was the primary diagnosis reported by 55% of participants, with 58.9% meeting the PhQ-9 cutoff for moderate-severe depression. The highest level of educational achievement for 44% of participants was high school or less, with 75% reporting being unemployed. Almost half (45%) reported engaging in less than two hours of structured activity each week. Thirty eight percent of participants reported living in their own apartment, with 25% reporting being homeless and 17% living in a single-room housing unit. The majority of participants (56%) sampled were not satisfied with their housing, and 67% were actively looking for new housing. Sixty percent of participants reported smoking cigarettes daily and 40% reported weekly cannabis use. A total of

11% of the sample reported that they did not have access to clean drinking water; 35% worried that their food would run out, and 47% reported cutting the size of meals due to a lack of money. **Conclusion:** This study lends evidence towards the circumstances in which patients presenting to the ED with an AMHC live and work. A considerable proportion of patients reported homelessness or being marginally housed, lack access to clean drinking water and sufficient food, and high rates of unemployment. Mitigating the effects of harmful social determinants is critical for optimal health of this population. Future work is needed to clarify the role of the ED in the surveillance, screening, and intervention of SDoH for this vulnerable patient group.
Keywords: social determinants of health, mental health

P112

Predicting patient admission from the emergency department using triage administrative data

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Introduction: Emergency department (ED) over-crowding and increased wait times are a growing problem. Many interventions have been proposed to decrease patient length of stay and increase patient flow. Early disposition planning is one method to accomplish this goal. In this study we developed statistical models to predict patient admission based on ED administrative data. The objective of this study was to predict patient admission early in the visit with goal of preparation of the acute care bed and other resources. **Methods:** Retrospective administrative ED data from the Thunder Bay Regional Health Sciences Centre was obtained for the period May 2014 to April 2015. Data were divided into training and testing groups with 80% of data used to train the statistical models. Logistic regression models were developed using administrative variables (i.e., age, sex, mode of arrival, and triage level). Model accuracy was evaluated using sensitivity, specificity, and area under the curve measures. To predict hourly bed requirements, the probability of admission was summed to calculate a pooled bed requirement estimate. The estimated hourly bed requirement was then compared to the historical hourly demand. **Results:** The logistic regression models had a sensitivity of 23%, specificity of 97%, and an area under the curve of 0.78. Although, admission prediction for a particular individual was satisfactory, the hourly pooled probabilities showed better results. The predicted hourly bed requirements were close to historical demand for beds when compared. **Conclusion:** I have shown that the number of acute care beds required on an hourly basis can be predicted using triage administrative data. Early admission bed planning would allow resources to be managed more effectively. In addition, during periods of hospital over capacity, managers would be able to prioritize transfers and discharges based on early estimates of ED demand for beds.
Keywords: admission, triage, overcrowding

P113

Comparison of age-adjusted and clinical probability-adjusted D-dimer for diagnosing pulmonary embolism

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Introduction: Diagnosing pulmonary embolism (PE) in the emergency department can be challenging due to non-specific signs and symptoms; this often results in the over-utilization of CT pulmonary angiography (CT-PA). In 2013, the American College of Chest Physicians identified CT-PA as one of the top five avoidable tests. Age-adjusted D-dimer has been shown to decrease CT utilization rates. Recently, clinical-probability adjusted D-dimer has been promoted as an alternative strategy to reduce CT scanning. The aim of this study is to compare the safety and efficacy of the age-adjusted D-dimer rule and the clinical probability-adjusted D-dimer rule in Canadian ED patients tested for PE. **Methods:** This was a retrospective chart review of ED patients investigated for PE at two hospitals from April 2013 to March 2015 (24 months). Inclusion criteria were the ED physician ordered CT-PA, Ventilation-Perfusion (VQ) scan or D-dimer for investigation of PE. Patients under the age of 18 were excluded. PE was defined as CT/VQ diagnosis of acute PE or acute PE/DVT in 30-day follow-up. Trained researchers extracted anonymized data. The age-adjusted D-dimer and the clinical probability-adjusted D-dimer rules were applied retrospectively. The rate of CT/VQ imaging and the false negative rates were calculated. **Results:** In total, 1,189 patients were tested for PE. 1,129 patients had a D-dimer test and a Wells score less than 4.0. 364/1,129 (32.3%, 95%CI 29.6-35.0%) would have undergone imaging for PE if the age-adjusted D-dimer rule was used. 1,120 patients had a D-dimer test and a Wells score less than 6.0. 217/1,120 patients (19.4%, 95%CI 17.2-21.2%) would have undergone imaging for PE if the clinical probability-adjusted D-dimer rule was used. The false-negative rate for the age-adjusted D-dimer rule was 0.3% (95%CI 0.1-0.9%). The false-negative rate of the clinical probability-adjusted D-dimer was 1.0% (95%CI 0.5-1.9%). **Conclusion:** The false-negative rates for both the age-adjusted D-dimer and clinical probability-adjusted D-dimer are low. The clinical probability-adjusted D-dimer results in a 13% absolute reduction in CT scanning compared to age-adjusted D-dimer.
Keywords: D-dimer, clinical decision rule, pulmonary embolism

P114

Critical objectives for a pediatric emergency medicine fellowship point of care ultrasound curriculum

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Introduction: Emergency Medicine Physicians have been incorporating Point-of-Care Ultrasound (POCUS) into their practice for over twenty years. Only recently has its use become more widespread in the practice of Pediatric Emergency Medicine (PEM). Recent guidelines have described the scope of applications for PEM physicians. However, no consensus exists as to which applications should be prioritized and routinely taught to PEM fellowship trainees and therefore expected of PEM graduates as they enter practice. The PEM POCUS Network, a multinational group of Physicians with POCUS expertise formed in 2014, set out to reach expert consensus as to which applications should be incorporated into PEM fellowship training curricula. **Methods:** A multinational group of PEM POCUS experts was recruited from the PEM POCUS Network via a screening process that identified PEM physicians who have performed over 1000 pediatric POCUS scans and met any of one of the following criteria: having 3 years or more experience teaching POCUS to PEM fellows, being local academic POCUS leaders or had completed a dedicated PEM POCUS fellowship. These experts rated each of the 60 possible PEM POCUS applications using a modified Delphi consensus building technique for their importance in inclusion into a PEM Fellowship curriculum. Consensus was reached when >80% of respondents agreed to include or exclude each item. **Results:** In the first round, 66 out of 92 (72%) PEM POCUS Network members responded to the survey email, of whom 45 met expert criteria and completed the first round. During round 1, consensus