

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**

D.W. Savage, MD, PhD, B. Weaver, MSc, D. Wood, MD, Northern Ontario School of Medicine, Thunder Bay, ON

**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**

S. Sharif, MD, C. Kearon, MB, M. Li, BSc, M. Eventov, BSc, R. Jiang, HBSc, P.E. Sneath, MD, R. Leung, BHSc, K. de Wit, MBChB, MD, MSc, McMaster University, Hamilton, ON

**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**

A.E. Shefrin, MS, F. Warkentine, MD, E. Constantine, MD, A. Toney, MD, A. Uya, MD, S.J. Doniger, MD, A. Sivitz, MD, R. Horowitz, MD, RDMS, D. Kessler, MD, MSc, Children's Hospital of Eastern Ontario, Ottawa, ON

**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