

was reached to include 18 of the 60 applications in a PEM fellowship curriculum and to exclude 2 applications from a PEM fellowship curriculum. Eighty-two percent (37/45) of the experts completed Round 2 where 40 items were rated; consensus was reached to include 3 additional applications and exclude 5 applications. The decision was made not to carry on with future rounds after this stage, since no significant changes were observed between the two rounds, with regard to items that had not reached consensus. **Conclusion:** This project of the PEM POCUS Network reached consensus on 21 applications that should be included in a PEM Fellowship curriculum. This project will have significant impact on how PEM fellowships teach POCUS to their trainees. **Keywords:** ultrasound, curriculum, consensus

P115

Limiting functional decline in seniors evaluated for minor injuries in the ED

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Introduction: In its prospective cohorts of independent seniors with minor injuries, the CETIe (Canadian Emergency Team Initiative) has shown that minor injuries trigger a spiral of mobility and functional decline in 18% of those seniors up to 6 months post-injury. Because of their effects on multiple physiological systems, multicomponent **mobility interventions with physical exercises** are among the best methods to limit frailty and improve mobility & function in seniors. **Methods:** Pilot clinical trial among 4 groups of seniors, discharged home post-ED consultation for minor injuries. **Interventions:** 2x 1 hour/week/12 weeks with muscle strengthening, functional and balance exercises under kinesiology supervision either at home (**Jintronix tele-rehabilitation platform**) or at community-based programs (**YWCA, PIED**) vs usual ED-discharge (**CONTROL**). **Measures:** Functional Status in ADLs (*Older American Resources Scale*); Global physical & social functioning (*SF-12 questionnaire*), physical activity level (*RAPA questionnaire*) at initial ED visit and at 3 months. **Results:** 135 seniors were included (Controls: n = 50; PIED: n = 28; Jintronix: n = 27; YWCA: n = 18). Mean age was 72.6 ± 6.2 years, 45% were prefrail, 86% and 8% had a fall or motor vehicle-related injuries (e.g. fractures: 30%; contusions: 37%). Intervention could start as early as 7 days post-injury. Seniors in interventions (Home, YWCA or PIED) **maintained or improved their functional status** (84% vs 60%, p ≤ 0.05), **their physical** (73% vs 59%, p = 0.05) and **social** (45% vs 23%, p ≤ 0.05) **functioning**. While 21% of CONTROLS improved their **physical activity level** three months post-injury, **46% of seniors in intervention did** (p ≤ 0.05). **Conclusion:** Exercises-based interventions can help improve seniors' function and mobility after a minor injury.

Keywords: geriatric, minor injury, mobility

P116

A scoping review of factors affecting patient satisfaction with care in North American adult emergency departments

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Introduction: Patient satisfaction in the emergency department (ED) has been shown to be associated with patient compliance, likelihood to return, and likelihood to recommend the ED. Understanding the factors that affect patient satisfaction in the ED is important but remains poorly understood. This scoping review consolidates the information from the

available literature to offer insight into which key factors influence patient satisfaction. **Methods:** A literature search using initial criteria identified 683 articles. These titles were subjected to inclusion/exclusion criteria and their relevance was independently reviewed by two authors. Consensus was reached on 24 articles to be included, and these were then classified according to study design (class I = observational studies, class II = focus group/qualitative studies, class III = reviews), as well as multiple other factors (ED type, volume of patients, sample size, population, type of study, methodology, study measures, statistical analysis, reliability and conclusions). Using these factors, 25 different ED care attributes were examined in the primary literature, and then narrowed to the 6 most commonly studied factors with 3 categories (wait times, communication/information received in the ED, and interpersonal skills of staff). **Results:** The impact of wait times (WT) on patient satisfaction in the ED was addressed in 58% of the articles and various studies have found that longer perceived WTs (the length of WTs as reported by patients) are associated with poorer patient satisfaction. Information delivery demonstrated statistically significant associations to both patient satisfaction and the likelihood of a positive recommendation. Interpersonal skills of the staff also demonstrated a strong association with patient satisfaction. **Conclusion:** The most common factors affecting patient satisfaction in the ED can be categorized under wait times, communication, and the interpersonal skills of the staff. However, the literature in this area is weak, and well-designed comparative studies of the relative importance of each of these factors are necessary to support evidence-based policy making and ultimately improve patient satisfaction.

Keywords: patient satisfaction, wait times, communication

P117

Emergency physicians are choosing wisely when transfusing patients with non-variceal upper gastrointestinal bleeding and hemoglobins >70 g/L

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Introduction: Acute non-variceal upper gastrointestinal bleeding (NVUGIB) is a common presentation to the Emergency Department (ED) associated with significant mortality and morbidity. Recent evidence suggests that overt-transfusion is associated with poor patient outcomes and that stable patients above a hemoglobin (hgb) above 70 g/L should be transfused judiciously. This retrospective health records review aims to determine the proportion of NVUGIB patients with hemoglobin greater than 70 g/L who were still appropriately transfused based on clinical parameters. **Methods:** A retrospective review was conducted on randomly selected patients that presented to one of two major tertiary hospitals with a primary diagnosis of NVUGIB who received blood products, despite a presenting hemoglobin >70 g/L. Standardized case report forms were developed through chart abstraction using a pilot-tested template. The appropriateness of transfusion was then adjudicated separately by a trained medical student and an emergency physician; discrepancies were resolved by discussion. **Results:** Following independent review of the charts, agreement was met on 94% (45/48) of the charts and after collective discussion 100% consensus was reached and all 48 patients' transfusion appropriateness and categorized into one of three groups: Appropriate, Potentially avoidable, and clearly avoidable. Only in 22.9% (11/48) of the cases was transfusion deemed to be clearly avoidable while emergency physicians appropriately transfused 45.8% (22/48) of patients based on clinical status and other factors. In 31.3% (15/48) of the cases,

transfusion was potentially avoidable in favor of other management options. We calculated the mean GBS for the appropriate, potentially avoidable, and clearly avoidable categories yielding 12.8, 12.7, and 10.2 respectively. Mortality occurred in 2 of the 48 cases (4%). **Conclusion:** In most instances, emergency physicians are effectively integrating hemoglobin thresholds and clinical status to determine if a patients with NVUGIB and hgb >70 require blood products.

Keywords: upper gastro-intestinal bleeds, transfusion, emergency medicine

P118

Effects of system design on laboratory utilization in the emergency department: the case for INR & aPTT

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Introduction: In the context of a shrinking healthcare budget, poor physician cost awareness, and continued over-utilization of low-value tests in the emergency department, we re-designed our computerized order entry system to reduce the use of coagulation testing. **Methods:** A hospital-based prospective pre-post analysis following de-bundling of INR/PTT testing in two academic hospital emergency departments (annual visits 140,000). All participants aged 18 years or older undergoing evaluation and/or treatment at either of during the period of August 1, 2015 to July 24, 2016 were included. Primary outcome is coagulation testing utilization rates and associated costs. **Results:** Unbundling INR and aPTT testing resulted in significantly decreased bundled INR/PTT testing relative to baseline (INR/PTT tests per patient per day: 0.60 [95% CI: 0.57-0.62] vs. 0.98 [95% CI: 0.98-0.99], $p = 0.000$), with significantly increased targeted testing (INR tests per patient per day: 0.39 [95% CI: 0.37-0.42] vs. 0.00 [95% CI: 0.00-0.01], $p = 0.000$; PTT tests per patient per day: 0.33 [95% CI: 0.30-0.36] vs. 0.01 [95% CI: 0.00-0.01], $p = 0.000$). As a result of unbundling, there was a significant decrease in costs associated with coagulation testing relative to baseline (Cost per day: \$958.52 [INR/PTT \$592.78 + INR \$183.91 + PTT \$181.83] vs. \$1,074.50 [INR/PTT \$1,069.76 + INR \$2.06 + PTT \$2.68], $p = 0.000$), realizing estimated daily and yearly savings of \$115.98 and \$42,332.70, respectively. **Conclusion:** Compared to baseline practice patterns, unbundling coagulation testing resulted in the reduction of coagulation testing suggesting system design and user workflows to be an integral factor to provider practice patterns. Given the significant cost-savings, we recommend institutions carefully re-evaluate their system design and user workflows to optimize emergency department laboratory utilization.

Keywords: laboratory medicine, efficiency, cost analysis

P119

Health care utilization by patients presenting to the emergency department with mental health complaints

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Introduction: Emergency department (ED) visits for mental health and addiction related complaints are common and appear to be increasing. It is believed these patients come to the ED requiring urgent assessment either because they do not have a primary care or psychiatric healthcare provider or access to their provider is not available in a timely fashion. The objective of this study was to describe healthcare utilization in the previous 12 months by patients presenting to the ED with a mental health complaint. **Methods:** Between April-November 2016,

a convenience sample of adult (≥ 18 years) patients presenting to an academic ED (annual census 65,000) with a mental health and/or addictions complaint were invited to complete a paper-based survey to determine their usage of ten different mental healthcare resources over the previous 12 months. The questionnaire was pilot-tested and peer-reviewed for feasibility and comprehension. **Results:** Of the 134 patients who completed the survey, mean (SD) age was 37.9 (15.7) years and 64 (47.8%) were male. Only 7 (5.2%) patients did not access any mental health resource in the previous 12 months, and the most commonly accessed resource was hospital EDs (102, 76.1%), with 24 (23.5%) of these patients using the ED at least 6 times. Patients also accessed a variety of other mental health resources, with 28 (20.9%) seeing their family physician, 20 (14.9%) seeing their psychiatrist/psychologist, and 61 (45.5%) seeing both in the previous 12 months. Only 6 (5.9%) patients used the ED exclusively for a mental health related complaint. By comparison, respondents accessed other specific mental health resources such as crisis centres (19, 14.2%), helplines (34, 25.4%), and peer-support groups (24, 17.9%) less often. **Conclusion:** These findings suggest that the ED is the most commonly used mental health resource for this population. However, these patients also frequently access family physicians and psychiatrists/psychologists, with community resources such as crisis centres, helplines, and peer-support being used less often. This suggests that lack of timely access to other mental health resources may be the primary motivation for accessing the ED.

Keywords: mental health, health care utilization, emergency department

P120

Clinical decision rule evidence ranking and use in clinical practice

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Introduction: The 2007 SAEM Knowledge Translation consensus conference proposed areas of research in evidence-based clinical algorithms (EBCAs) using clinical decision rules (CDRs) and practice guidelines (CPGs). This project sought to explore the evidence awareness and utilization of various clinical decision rules (CDRs) in emergency medicine (EM) practice. This project sought to explore the evidence awareness and utilization of various clinical decision rules (CDRs) in emergency medicine (EM) practice. **Methods:** An international survey was administered via international EM organizations using modified Dillman methods. Categories of CDRs included imaging (7), infections (3), neurology (2), venous thromboembolism (VTE; 2), and other (2). Evidence levels were queried using *JAMA User's Guide* CDR rating scales (Levels I-IV). Confidence with supporting evidence and utilization of CDRs in practice were assessed on 7-point Likert scales. Correlation of evidence understanding and practice utilization were calculated using Spearman *rho* methods. **Results:** The majority of respondents ($n = 378$) were Canadian (72%), <15 years full practice (64%), residency trained (90%), and trained in CDR methods (73%). Evidence ratings were deemed high for all CDRs, although confidence in evidence ratings and practice utilization were more variable for specific rules. Comfort with evidence ranking and utilization in clinical practice were highly correlated ($p < 0.0002$). **Conclusion:** Among Canadian residency CDR trained physicians, evidence ranking is strongly correlated with use in self-reported clinical practice. There is insufficient data from non-Canadian respondents to draw firm correlations. Their remains opportunity to fully disseminate high quality CDRs and encourage incorporation into EBCA practice.

Keywords: clinical decision rules, knowledge translation, levels of evidence