

measured using protocol failure (presentation to ED within 48 hours of appropriate diversion) and patient morbidity rates (hospital admission within 48 hours of diversion). Data was analysed qualitatively and quantitatively using proportions. **Results:** EMS responded to 695 calls with psychiatric complaints. Of the 650 taken directly to the ED, 18 met diversion criteria; these were missed protocol opportunities (3%). 45 patients were diverted. There was protocol noncompliance in 36 cases (80%), but 34 were due to incomplete recording of vital signs. There were direct protocol violations in only 2 cases (4%). There was protocol failure in 3 cases (33%), and patient morbidity in 8 cases (18%). No patients died within 48 hours of diversion. **Conclusion:** EMS providers were highly compliant with the protocol when transporting patients directly to the ED. There were high levels of protocol non-compliance in diverting patients to CI, though this is largely attributed to incomplete recording of vital signs; direct protocol violations were low. The protocol provides moderate levels of safety in diverted patients. Broader implementation of a diversion protocol could reduce the volume of mental health patients seen in the ED, and improve quality of care received by this patient population.

Keywords: prehospital care, diversion, mental health

P019

Prehospital diversion of intoxicated patients to a detoxification facility vs the emergency department: safety and compliance of an EMS direct transport protocol

V. Bismah, BHSc, J. Prpic, MD, S. Michaud, N. Sykes, BHScN, Queen's University, Kingston, ON

Introduction: Prehospital transport of patients to an alternative destination (diversion) has been proposed as part of a solution to overcrowding in emergency departments (ED). We evaluated compliance and safety of an EMS bypass protocol allowing paramedics to transport intoxicated patients directly to an alternate facility [Withdrawal Management Services (WMS)], bypassing the ED. Patients were eligible for diversion if they were ≥ 18 years old, classified as CTAS level III-IV, scored < 4 on the Prehospital Early Warning (PHEW) score, and did not have any vital sign parameters in a danger zone (as per PHEW score criteria). **Methods:** A retrospective analysis was conducted on intoxicated patients presenting to Sudbury EMS. Data was abstracted from EMS reports, hospital medical records, and discharge forms from WMS. Protocol compliance was measured using missed protocol opportunities (patients eligible for diversion but taken directly to the ED) and protocol noncompliance rates; protocol safety was measured using protocol failure (presentation to ED within 48 hours of appropriate diversion) and patient morbidity rates (hospital admission within 48 hours of diversion). Data was analysed qualitatively and quantitatively using proportions. **Results:** EMS responded to 681 calls for intoxication. Of the 568 taken directly to the ED, 65 met diversion criteria; these were missed protocol opportunities (11%). 113 patients were diverted. There was protocol noncompliance in 41 cases (36%), but 35 were due to incomplete recording of vital signs. There were direct protocol violations in only 6 cases (5%). There was protocol failure in 16 cases (22%), and patient morbidity in 1 case (1%). No patients died within 48 hours of diversion. **Conclusion:** EMS providers were fairly compliant with the protocol when transporting patients directly to the ED. There was some protocol non-compliance with patients diverted to WMS, though this is largely attributed to incomplete recording of vital signs; direct protocol violations were low. The protocol provides high levels of safety for patients diverted to WMS. Broader implementation of the protocol could reduce the volume of intoxicated patients seen in the ED, and improve quality of care received by this population.

Keywords: prehospital care, diversion, alcohol intoxication

P020

Ultrasound-guided peripheral intravenous access in the emergency department: A randomized controlled trial comparing single and dual-operator technique

C. Brick, MD, J. Chenkin, MD, Y.R. Chang, MSc, P. Kapur, MD, MSc, University of Toronto, Toronto, ON

Introduction: Intravenous (IV) cannulation is a common and important procedure in the emergency department (ED). Ultrasound-guided IV (UGIV) insertion has been shown to be more effective than the blind approach for patients with difficult IV access. The optimal technique for UGIV insertion has not been determined. The objective of this study is to compare the first-attempt cannulation success rate between a single-operator technique (provider holds the ultrasound probe while simultaneously placing the IV), with dual-operator technique (whereby a second provider holds the probe) in ED patients with predicted difficult access. **Methods:** We conducted a randomized controlled trial using a convenience sample of adult ED patients. Participating ED nurses received a one-hour UGIV training session on including didactic and practical training on simulated arms. Patients were enrolled if they met any of three criteria for difficult access: (1) history of difficult access, (2) no visible or palpable veins, or (3) two failed blind attempts. High-acuity patients or those unable to consent or comply with the procedure were excluded. Eligible patients were randomized to single or dual-operator technique and a maximum of two UGIV attempts were allowed. The primary outcome was first-attempt success rate. Additional outcomes included overall success rate, number of attempts, time to successful cannulation (needle insertion to flashback), patient pain scores, operator 'ease of use' scores, and complications 30 minutes after insertion including IV failure. Other variables collected included patient demographics, presenting complaint, indication for ultrasound use, relevant medical history, and location/depth of the target vessel. Fisher's exact test was used to compare success rates between groups. **Results:** Data collection was ongoing at the time of submission, but is expected to be completed by May 01, 2017. **Conclusion:** This is the first randomized-controlled trial comparing single and dual-operator ultrasound technique for difficult IV insertion in ED patients. The results from this study will provide evidence to guide education, and ensure best practice of UGIV insertion in the ED.

Keywords: ultrasound, vascular access, nurse education

P021

A 'Pawitive' addition to the ER patient experience: A pilot evaluation of the St. John Ambulance therapy dog program in a Canadian hospital

L. Broberg, J. Stempien, BSc, MD, C.A. Dell, PhD, J. Smith, BTrad, BEd, M. Steeves, BSc, L. Jurke, BSc, University of Saskatchewan College of Medicine, Saskatoon, SK

Introduction: Animal-assisted interventions (AAI) have been applied in numerous clinical settings to help reduce pain, stress, and anxiety. This qualitative study sets out to evaluate the St. John Ambulance Therapy Dog program in the emergency department of the Royal University Hospital. **Methods:** An observer identified patients interested in visiting with a Therapy Dog during their emergency department stay and obtained consent. Participants were asked to indicate on a pictographic scale their physical and mental states before and after the visit. The Therapy Dog team, consisting of a dog and handler, visited the patient for 5-10 minutes. During this time an observer took notes. Participants were asked at the conclusion of the visit to answer questions regarding their overall experience with the Therapy Dog team.