

evidence exists to support A&F as a tool for self-reflection and identifying unperceived learning needs, there are many questions that remain such as the optimal content of the A&F reports, the method of dissemination for emergency physicians (EP) and the perceived benefit. The goal of the project was to 1) evaluate EP perceptions regarding satisfaction with A&F reports and its' ability to stimulate physicians to identify opportunities for practice change and 2) identify areas for optimization of the A&F reports. **Methods:** EP practicing at any of the four adult hospital sites in Calgary were eligible. We conducted a web survey using a modified Dillman technique eliciting EP perspectives regarding satisfaction, usefulness and suggestions for improvement regarding the A&F reports. Quantitative data were analyzed descriptively and free-text were subjected to thematic analysis. **Results:** From 2015 onwards, EP could access their clinical performance data via an online dashboard. Despite the online reports being available, few physicians reviewed their reports stating access and perceived lack of utility as a barrier. In October 2016, we began disseminated static performance reports to all EP containing a subset of 10 clinical and operational performance metrics via encrypted e-mail. These static reports provided clinician with their performance with peer comparator data (anonymized), rationale and evidence for A&F, information on how to use the report and how to obtain continuing medical education credits for reviewing the report. **Conclusion:** Of 177 EP in Calgary, we received 49 completed surveys (response rate 28%). 86% of the respondents were very/satisfied with the report. 88% of EP stated they would take action based on the report including self-reflection (91%) and modifying specific aspects of their practice (63%). Respondents indicated that by receiving static reports, 77% were equally or more likely to visit the online version of the eA&F tool. The vast majority of EP felt that receiving the A&F reports on a semi-annual basis was preferred. Three improvements were made to the eA&F based on survey results: 1) addition of trend over time data, 2) new clinical metrics, and 3) optimization of report layout. We also initiated a separate, real-time 72-hour bounceback electronic notification system based on the feedback. EP value the dissemination of clinical performance indicators both in static report and dashboard format. Eliciting feedback from clinicians allows iterative optimization of eA&F. Based on these results, we plan to continue to provide physicians with A&F reports on a semi-annual basis. **Keywords:** audit and feedback, self-reflection, performance metrics

P035

Continuous intravenous low-dose ketamine infusion for managing pain in the emergency department

J. Drapkin, BS, S. Motov, MD, A. Likourezos, MA, MPH, T. Beals, MD, R. Monfort, BS, C. Fromm, MD, J. Marshall, MD, Maimonides Medical Center, Brooklyn, NY

Introduction: To describe dosing, duration, and pre- and post-infusion analgesic administration of continuous intravenous sub-dissociative dose ketamine (SDK) infusion for managing a variety of painful conditions in the emergency department (ED). **Methods:** Retrospective chart review of patients aged 18 and older presenting to the ED with acute and chronic painful conditions who received continuous SDK infusion in the ED for a period over 6 years (2010-2016). Primary data analyses included dosing and duration of infusion, rates of pre- and post-infusion analgesic administration, and final diagnoses. Secondary data included pre- and post-infusion pain scores and rates of side effects. **Results:** 104 patients were enrolled in the study. Average dosing of ketamine infusion was 11.26 mg/hr, the mean duration of infusion was 135.87 minutes with 38% increase in patients not requiring post-infusion analgesia. The average decrease in pain score was 5.04. There were 12 reported adverse effects with nausea being the most prevalent.

Conclusion: Continuous intravenous SDK infusion has a role in controlling pain of various etiologies in the ED with a potential to reduce need for co-analgesics or rescue analgesic administration. There is a need for more robust, prospective, randomized trials that will further evaluate the analgesic efficacy and safety of this modality across wide range of pain syndromes and different age groups in the ED.

Keywords: ketamine, analgesia, emergency department

P036

Interim analysis of the impact of the emergency department transformation system on flow metrics

A. Dukelow, MD, MHSC, K. Van Aarsen, MSc, C. MacDonald, BScPT, MD, MSc, V. Dagnone, MD, MHSc, K. Church, MD, Western University, London, ON

Introduction: Emergency Department Systems Transformation (EDST) is a bundle of Toyota Production System based interventions implemented in two Canadian tertiary care Emergency Departments (ED) between June 2014 to July 2016. The goals were to improve patient care by increasing value and reducing waste. Longer times to physician initial assessment (PIA), ED length of stays (LOS) and times to inpatient beds are associated with increased patient morbidity and potentially mortality. Some of the 17 primary interventions included computerized physician order entry optimization, staff schedule realignment, physician scorecards and a novel initial assessment process ED access block has limited full implementation of EDST. An interim analysis was conducted to assess impact of interventions implemented to date on flow metrics. **Methods:** Daily ED visit volumes, boarding at 7am, time to PIA and LOS for non-admitted patients were collected from April 2014-June 2016. Volume and boarding were compared from first to last quarter using an independent samples median test. Linear regression for each variable versus time was conducted to determine unadjusted relationships. PIA, LOS for non-admitted low acuity (Canadian Triage and Acuity Scale (CTAS) 4,5) and non-admitted high acuity (CTAS 1,2,3) patients were subsequently adjusted for volume and/or boarding to control for these variables using a non-parametric correlation. **Results:** Overall, median ED boarding decreased at University Hospital (UH) (14.0 vs. 6.0, $p < 0.01$) and increased at Victoria Hospital (VH) (17.0 vs. 21.0, $p < 0.01$) from first to last quarter. Median ED volume increased significantly at UH from first to last quarter (129.0 vs. 142.0, $p < 0.01$) but remained essentially unchanged at VH. 90th percentile LOS for non-admitted low acuity patients significantly decreased at UH (adjusted $r_s = -0.24$, $p < 0.01$) but did not significantly change at VH. For high acuity patients 90th percentile LOS significantly decreased at both hospitals (UH: adjusted $r_s = -0.23$, $p < 0.01$; VH: adjusted $r_s = -0.21$, $p < 0.01$). 90th percentile time to PIA improved slightly but significantly in both EDs (UH: adjusted $r_s = -0.10$, $p < 0.01$; VH: adjusted $r_s = -0.18$, $p < 0.01$). **Conclusion:** Persistent ED boarding impacted the ability to fully implement the EDST model of care. Partial EDST implementation has resulted in improvement in PIA at both LHSC EDs. At UH where ED boarding decreased, LOS metrics improved significantly even after controlling for boarding.

Keywords: emergency department systems transformation, quality improvement, overcrowding

P037

Training first-responders to administer publicly available epinephrine – a randomized study

R. J. Dunfield, BSc, J. Riley, BN, C. Vaillancourt, MD, J. P. French, MB, BSc, J. Fraser, BN, P. Atkinson, MB, BCh, BAO MA, Dalhousie Medicine New Brunswick, Saint John, NB