resource use. Different specialty organizations create recommendations lists towards these outcomes. The goal of this study was to examine the applicability of non-Emergency Medicine (EM) recommendations towards EM practice. **Methods:** The entire master recommendations listings spreadsheet was downloaded from the CWC website (March 2019; n = 333). The EM-specific items from the CAEP checklist were deliberately excluded (n = 10). Items were rated by Niagara community EM physicians (n = 7) using the previously validated Best Evidence in Emergency Medicine (BEEM) rating scale (7 point Likert scale) to determine potential impact on EM practice. Items rated "6 or 7/7" were determine as "high relevance." Redundant items were consolidated. **Results:** From the retrieved CWC master list, a total of 102 "highly relevant" recommendations were identified (41 items scored 6/7 [12%], 61 scored 7/7 [18%]; total 31%). Redundant items consolidated included antimicrobial avoidance (n = 18), opioid avoidance for pain (n = 11), reduction of unnecessary imaging (n = 11), and avoidance of routine low back imaging (n = 7). **Conclusion:** There are a large number of non-EM specialty recommendations highly relevant to EM practice in the CWC database (31%). Quality improvement initiatives looking to operational CWC recommendations in Canadian Emergency Departments should be aware of these as a part of optimizing patient care.

Keywords: Choosing Wisely Canada, emergency medicine, relevance

LO28

Innovating for overcrowding: analyzing the impact of a novel emergency physician role on patient flow

L. Green-Harrison, BSc, Z. Polsky, MD, T. Fung, PhD, E. Lang, MD, C. Patocka, MD, MHPE, University of Alberta, Edmonton, AB

Introduction: Overcrowding in the Emergency Department (ED) results in delays in care, and increased patient morbidity and mortality. Innovative departmental approaches have the potential to make patient flow through the ED more efficient and reduce overcrowding by improving patient throughput. The Calgary zone ED recently piloted a new physician role, the Emergency Physician Lead (EPL), a senior physician working closely with the charge nurse and consulting services to provide physician leadership, and to troubleshoot flow issues and safety breeches such as EMS offload delays and long emergency inpatient (EIP) stays. The objective of this study was to evaluate the efficacy of the EPL by determining its effect on key metrics of patient flow, and by identifying which specific EPL interventions were most effective at improving patient throughput. **Methods:** A retrospective cohort design was used to compare Foothills Medical Centre (FMC) ED patients seen by the EPL from March-June 2019 (n = 1343 patients) with a control group from the same period in 2018 (n = 5530). An EMR search was used to collect patient data and generate descriptive statistics, which were compared between groups by Mann-Whitney U-test. Patient handover notes left by the EPL were also collected and analyzed by two independent assessors to develop a list of actions taken by the EPL. Each patient was then coded based on the actions in the handover note, and means for each coded group were compared to control to find correlations between action and changes in key flow metrics. **Results:** Patients whose care involved the EPL had a 40% shorter average ED length of stay (ELOS) compared to control (515 vs 865 min, p < 0.001). The EPL was especially effective for patients with ELOS above the 90th percentile, with a 58% relative reduction. EPL patients also had lower average times from first contact with the department to first order being placed (79 vs 143 min, p < 0.001), and spent less time as EIPs after being admitted (390 vs 515 mins, p < 0.001). EPL actions aimed at early ordering of investigations or early management showed the largest relative reductions in ELOS, followed by actions related to resolving issues with consulting services (56% and 48% respectively, p < 0.001). **Conclusion:** The EPL role appears to be associated with improvements in several key metrics of patient flow. Specific EPL actions were correlated with marked decreases in length of stay. The EPL may be an effective strategy to improve patient throughput and combat ED overcrowding.

Keywords: flow, overcrowding, throughput

LO29

Interventions at triage to improve emergency department throughput: a systematic review

K. Grant, C. Bayley, BSc, E. Lang, MDCM, G. Innes, MD, University of Alberta, Edmonton, AB

Introduction: Emergency Department (ED) crowding is the primary threat to emergency care quality. Input and outflow factors are important factors, but EDs must optimize throughput efficiency by improving internal processes from triage to disposition, and triage is the first throughput phase. Triage throughput interventions exclude strategies that direct patients away from the ED (these modify input rather than throughput). Previous research has described physicians in triage, team triage, telemedical triage, and nurse practitioner (NP) or physician assistant (PA) led triage, but their impact has never been systematically evaluated. **Methods:** We conducted systematic database searches in Medline, Embase, CINAHL, and the Cochrane Central Register of Controlled Trials without the use of filters or language restrictions of all triage interventions that effected ED throughput (PROSPERO:CRD42019125651). Two independent reviewers screened studies. Study quality was assessed using the Cochrane Risk of Bias tool (version 2) for randomized controlled trials, and the National Heart, Lung, and Blood Institute quality assessment tool for other designs. **Results:** 18 studies met inclusion criteria (Cohen's k = 0.69). Study results were not pooled due to high statistical heterogeneity as assessed by chi-squared and I-squared statistics. Studies were grouped into physician led, NP or PA led, and team triage interventions. Six physician in triage interventions reported LOS changes between -82 and + 18 minutes. Five NP/PA led triage interventions resulted in LOS changes of -106 to + 19 minutes. Five team triage interventions reported LOS reductions of 4 to 34 minutes. One telemedicine triage study reported a non-significant 8 minute increase in LOS. Six physician at triage interventions yielded significant LWBS rate improvement (relative risk {RR}= 0.29-0.82). Team triage interventions generated LWBS rate changes ranging from meaningful improvement (RR = 0.58) to substantial deterioration (RR = 1.68). Five studies have low risk of bias, 11 studies have some risk of bias, and 2 studies have high risk of bias (Cohen's kappa = 0.58). **Conclusion:** Fourteen of 18 triage interventions reduced EDLOS and/or LWBS rate. Physician, NP and PA led triage were the most effective triage interventions. To aid widespread adoption, future research should focus on interrupted time series or RCT designs, and more comprehensive descriptions of the contextual factors affecting implementation of these interventions.

Keywords: crowding, throughput, triage