outcome was the average reduction from baseline in abdominal pain and nausea (each measured on a 10-cm VAS) at 2 hours. While the original trial design allowed for crossover, the primary analysis used only the first treatment period since fewer than the prespecified threshold of 20% of subjects crossed over. **Results:** We enrolled 33 subjects, of whom 30 (16 men, 29+/-11 years old, using 1.5+/-0.9 g/day since age 19+/-2 years) were treated at least once (haloperidol 13, ondansetron 17). Haloperidol at either dose was superior to ondansetron (difference 2.3 cm [95%CI 0.6, 4.0]; p = 0.01), with similar improvements in both pain and nausea, as well as less rescue antiemetics (27% vs 61%; p = 0.04), and shorter time to ED departure (3.1+/-1.7 vs 5.6 +/-4.5 hours; p = 0.03 Wilcoxon rank sum). There were two (haloperidol) vs six (ondansetron) return visits for ongoing nausea/vomiting, as well as two return visits for acute dystonia, both in the higher dose haloperidol group. **Conclusion:** Haloperidol is superior to ondansetron for the acute symptomatic treatment of patients with ongoing hyperemesis attributed to habitual cannabis use. The efficacy of this agent over ondansetron provides insight into the mechanism of this new disorder, now almost a daily diagnosis in many Canadian emergency departments.

Keywords: cannabis, cannabis hyperemesis syndrome, hyperemesis

LO70

Emergency department use and migration patterns of people experiencing homelessness

R. Hossain, MD, I. Burcul, BSc, J. Dai, BSc, R. Hossain, MD, S. Strobel, MD, MA, Z. Ma, BHSc, S. Jamani, University of Toronto, Toronto, ON

Introduction: Understanding how homeless patients interact with healthcare systems can be challenging. The nature of the population is such that identifying and following these persons can be severely limited by data. Previous studies have used survey data which relies on self-reporting and selected samples such as those persons admitted to homeless shelters (Gray et al. 2011). Other studies have been able to leverage administrative data but only for selected local geographic areas (Somers et al. 2016, Tompkins et al 2003). It is possible that the current literature has not examined a large proportion of homeless persons and their healthcare use. This is concerning because this population can have higher associated medical costs and greater medical resource utilization especially with regards to psychiatric and emergency department (ED) resources (Tulloch et al. 2012, Forchuk et al, 2015). **Methods:** Administrative health data (2010 to 2017) is used to analyze ambulatory care records for homeless individuals in Ontario, Canada. Uniquely, we are able to use ED contacts as a way of identifying homeless migrations from region to region within Ontario. Using a network analysis we identify high impact ED nodes and discrete hospital networks where homeless patients congregate. We are also able to more fully characterize this population's demographics, health issues, and disposition from the ED. **Results:** We provide a more complete understanding of migration patterns for homeless individuals, across Ontario and their concomitant ED use and hospitalizations. The three most frequented regions in Ontario (n = 640,897) were Toronto Central (35.96%), Hamilton Niagara Halimand Brant (8.9%) and Champlain (7.84%). In subsequent visits, the majority of patients presented to different EDs, however a subgroup who always presented to the same site was present. Over the 7 year period, migration between visits occurred most often between urban areas, and increased as a whole. **Conclusion:** The results of the study allow for the enhancement care coordination for vulnerable populations and enhance the availability and delivery of services for sub-groups of homelessness whose care needs may differ based on migration patterns. Services can be coordinated between jurisdictions for homeless individuals, and appropriate referrals can be made across the health care system. Further evidence is provided for a novel method of mapping migration among the homeless and its associations and effects on ED use.

Keywords: data, homelessness, migration

LO71

The effect of boarding time in ED on length of stay for psychiatric patients

D. Lane, PhD, E. Lang, MD, L. Roberts, MD, MSc, University of Saskatchewan, Saskatoon, SK

Introduction: The Emergency Departments (ED) is a gateway to the health care system for many psychiatric patients. As a consequence of hospital administrative factors and overcrowding, admitted psychiatric patients are often boarded in the ED while waiting for an inpatient bed. There is currently a lack of evidence to quantify the effect that ED boarding has on psychiatric patients. The primary objective of this study is to determine whether a patient's length of stay is related to longer ED boarding time. **Methods:** This study is a retrospective cohort using data from an administrative source, which was obtained from patient records captured in the Sunrise Clinical Manager EMR used across Calgary, Alberta EDs from 2014-2018. A hierarchical Bayesian regression analysis was used to model the several patient-level and hospital-level factors. The mean and variance was defined by the exposure of interest, namely hours in the Emergency Department after admission to psychiatry unit expressed as a continuous variable. An interaction between this exposure and patient-level confounders was used to model the changing effect of a patient's severity in the ED on their boarding time. **Results:** The median boarding time for patients in our study was 6.6 hours (standard deviation 17.3), while the average was 13.6 hours. Patients who were boarded for greater than 6 hours more frequently required an antipsychotic (37% vs 11%; SMD 0.651), sedative (52% vs 29%; SMD 0.483) or restraints (18% vs. 14%; SMD 0.102). In crude analysis there was no difference in median length of stay for patients that were boarding more than 6 hours compared to those boarded for less than 6 hours (8 days vs 9 days; SMD 0.012).The rate ratio for length of stay is 1.05 with 95% posterior interval 1.04 - 1.06 for each 24 hour increase in boarding time. This means that for each 1 day worth of boarding time, the length of stay (in days) increases 1.05 times (or 0.05 days/day boarding time). **Conclusion:** Boarding time is associated with a small but absolute increase in length of stay for psychiatric patients. Decreasing boarding time could have ripple effects for ED efficiency and overall patient outcomes.

Keywords: boarding time, length of stay, psychiatry

LO72

Spotting potential opportunities for teachable moments

H. Alrimawi, MB BCh, S. Sample, BHSc, MD, T. Chan, MD, MHPE, McMaster University, Hamilton, ON

Introduction: With the transition of Emergency Medicine into competency based medical education (CBME), entrustable professional activities (EPAs) are used to evaluate residents on performed clinical duties. This study aimed to determine if implementing a case-based orientation, designed to increase recognition of available EPAs, into CBME orientation would help residents increase the number of

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EPAs completed. **Methods:** We designed an intervention consisting of clinical cases that were reviewed by national EPA experts who identified which EPAs could be assessed from each case. A case-based session was incorporated into the 2019 CBME orientation for The McMaster Emergency Medicine Program. Postgraduate Year (PGY)1 residents read the cases and discussed which EPAs could be obtained with PGY2/faculty facilitators. The number of EPAs completed in the first two blocks of PGY1 was determined from local program data and Student's t-test was used to compare averages between cohorts. **Results:** We analyzed data from 22 trainees (7 in 2017, 8 in 2018, and 7 in 2019). In the first two blocks of PGY1, the intervention cohort (2019) had a significantly higher average number of EPAs completed per trainee (47.4 [SD 11.8]) than the historical cohort (25.3 [SD 6.7]) ($p < 0.001$) (Cohen's $d = 2.3$). No significant difference existed in the number EPAs obtained between the 2017/2018 cohorts, with averages of 24.3 [SD 6.8] and 26.1 [SD 7.0] per trainee respectively ($p = 0.6$). **Conclusion:** Implementation of a case-based orientation led by CBME-experienced facilitators nearly doubled the EPA acquisition rate of our PGY1s. The consistent EPA acquisition by the 2017/2018 cohorts suggest that the post-intervention increase was not solely due to developed familiarity with the CBME curriculum.

Keywords: competency based medical education, entrustable professional activity, orientation

LO73

Are women under-represented in emergency medicine residency programs across Canada?

K. Lien, MD, L. Yau, MD, K. Van Aarsen, MSc, A. Wakabayashi, MSc, M. Bhimani, MD, MSc, Western University, London, ON

Introduction: 2018 data from the Canadian Medical Association website shows that of practicing emergency physicians country-wide, only 31% were female. While there are some studies that examine the number and proportion of Canadian female applicants applying to surgical specialties, there are very few studies that are specific to emergency medicine (EM), and none that are Canadian in scope. Given the changing gender ratio of graduating medical students in Canada, the primary objective of this study is to assess the mean proportion and trends in proportion of females who applied and matched to English-language Canadian EM programs including Canadian College of Family Physicians emergency medicine certificate (CCFP-EM) and Fellow of the Royal College of Physicians of Canada emergency medicine (FRCPC-EM), family medicine (CCFP) programs, and all specialties combined. **Methods:** A retrospective data analysis on residency match results from 2013-2019 inclusively was performed. Data was accessed through a freedom of information request from the Canadian resident matching service (CaRMS). The mean proportions and trends in the proportions of females applying and matching to CCFP-EM, FRCPC-EM, CCFP, and all specialties were computed. Cochrane-Armitage trend of test was used for analysis. **Results:** From 2013-2019, the mean (SD) percentage of females who applied and matched respectively were as follows: CCFP-EM [44.4 (3.5);46.0(4.5)]; FRCPC-EM [41.3(4.1);44.0 (4.5], CCFP [56.5 (1.3);61.0(1.9)], all specialties [54.0(1.1);55.5(0.9)]. There was a significant increase in the proportion of female applying to the FRCPC-EM ($p < 0.0001$), CCFP ($p = 0.0002$), and all disciplines ($p = 0.0013$). There was no significant change in the proportion of females applying for the CCFP-EM program ($p = 0.6435$). **Conclusion:** Our study shows that there is an increasing trend in the percentage of female applicants in all programs except the CCFP-EM program, where it remained statistically the same over time. There was a consistent percentage of applied versus matched female applicants over time for both CCFP-EM and FRCPC-EM programs. However, the percentage of females applying or matching to both CCFP-EM and FRCPC-EM programs remained less than 50%. Further research could focus on evaluating reasons for program choice, in order to further increase the percentage of female medical students and residents applying and matching to both emergency medicine programs.

Keywords: Canadian resident matching service, gender, residency

LO75

Does the Ottawa emergency department shift observation tool give more useful information – assessing the utility of transitioning to a novel, entrustability based assessment tool in the emergency department

S. Dewhirst, MD, W. Cheung, MD, MMed, N. Dudek, MD, T. Wood, PhD, J. Frank, MD, MA(Ed), University of Ottawa, Department of Emergency Medicine, Ottawa, ON

Introduction: The Ottawa Emergency Department Shift Observation Tool (O-EDShOT) was recently developed to assess a resident's ability to safely run an ED shift and is supported by multiple sources of validity evidence. The O-EDShOT uses entrustability scales, which reflect the degree of supervision required for a given task. It was found to discriminate between learners of different levels, and to differentiate between residents who were rated as able to safely run the shift and those who were not. In June 2018 we replaced norm-based daily encounter cards (DECs) with the O-EDShOT. With the ideal assessment tool, most of the score variability would be explained by variability in learners' performances. In reality, however, much of the observed variability is explained by other factors. The purpose of this study is to determine what proportion of total score variability is accounted for by learner variability when using norm-based DECs vs the O-EDShOT. **Methods:** This was a prospective pre-/post-implementation study, including all daily assessments completed between July 2017 and June 2019 at The Ottawa Hospital ED. A generalizability analysis (G study) was performed to determine what proportion of total score variability is accounted for by the various factors in this study (learner, rater, form, pgy level) for both the pre- and post-implementation phases. We collected 12 months of data for each phase, because we estimated that 6-12 months would be required to observe a measurable increase in entrustment scale scores within a learner. **Results:** A total of 3908 and 3679 assessments were completed by 99 and 116 assessors in the pre- and post- implementation phases respectively. Our G study revealed that 21% of total score variance was explained by a combination of post-graduate year (PGY) level and the individual learner in the pre-implementation phase, compared to 59% in the post-implementation phase. An average of 51 vs 27 forms/learner are required to achieve a reliability of 0.80 in the pre- and post-implementation phases respectively. **Conclusion:** A significantly greater proportion of total score variability is explained by variability in learners' performances with the O-EDShOT compared to norm-based DECs. The O-EDShOT also requires fewer assessments to generate a reliable estimate of the learner's ability. This study suggests that the O-EDShOT is a more useful assessment tool than norm-based DECs, and could be adopted in other emergency medicine training programs.

Keywords: assessment, entrustability, Ottawa Emergency Department Shift Observation Tool