significance of hypoxia in asymptomatic older ED patients with no apparent acute illness. **Methods**: ED patients >75 years with a documented room air pulse oximetry reading <92% were eligible. Exclusion criteria included dyspnea, chest pain, SBP <100mmHg, HR >120 or <50; sustained tachypnea (RR > 20); acute cardiopulmonary conditions, delirium or acutely altered mentation. Eligible patients were separated into two groups: 1) Sustained hypoxia: two or more SpO2 readings <92% 2) Unsustained hypoxia: one SpO2 reading <92%. 30-day adverse events were tracked using a Sunrise Emergency Care record review. Adverse outcomes investigated included death, MI, CHF, PE, cardioversion, ICU admission, intubation, ED revisit or re-hospitalization. Patient characteristics studied were age, sex, arrival mode, triage complaint, CTAS level, pulse, BP, RR, weight, residence (independent, assisted living, facility), comorbidities, PHN, referral, disposition, and test results (CXR, troponin, ECG, CT). Follow-up phone calls were completed after 30 days to assess patient status and confirm ED revisit. **Results**: A total of 876 ED patients >75 years were screened and 30-day follow-up data was analyzed for 34 enrolled patients. The sustained hypoxia group (n = 23) showed higher rates of 30-day adverse outcomes of death, ED re-visitation, MI, CHF, a severe episode of COPD, PE and ICU stays compared to the unsustained hypoxia group (n = 11). Administrative data of 31,095 patients >75 years from four Calgary EDs in 2017 was also analyzed and 7,771 (20%) were hypoxic at triage (SpO2 <92%). Adverse outcomes and mortality were significant in discharged hypoxic patients (especially if SpO2 <90%). **Conclusion**: ED re-visits, cardiorespiratory complications, and mortality were significant in discharged sustained hypoxic patients, especially if O2 sat <90%. Pulse oximetry assessment of oxygen saturation in seniors' care facilities and physicians' offices may be important in screening for future adverse health outcomes in elderly patients.

Keywords: geriatrics, hypoxia, pulse oximetry

P069

Does specialist referral influence emergency department return rate for patients with renal colic? A retrospective cohort study

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Introduction: Renal colic is a common presentation which exerts a significant burden on healthcare infrastructure. A significant proportion of patients managed with observation may return to the Emergency Department (ED) prior to spontaneous passage due to inadequate analgesia. It is unclear whether early urologist consultation would limit the burden of renal stones by reducing returns to the ED. We wished to determine whether urologist referral from the ED department is associated with fewer returns to the ED with renal colic. **Methods**: We conducted a retrospective chart review using RECORD methodology of consecutive patients diagnosed with CT-confirmed, ureteric or renal calculi in our ED over a two-year period. Disposition was categorized as either hospital admission, outpatient urologist referral, follow up with primary care, or no follow up. The primary outcome was the 30-day ED re-presentation for renal colic. Multivariate logistic regression was used to identify predictors for ED-return. **Results**: In total, 232 patients met our inclusion criteria. Urgent or outpatient urologist referral was not associated with a significantly lower ED return rate when compared to patients with no follow-up. Surprisingly, urologic intervention and stent placement were both independent predictors for ED return (OR: 2.03; 95% CI: (1.06-3.88); p:0.03) and (OR:2.08; 95% CI: (1.07-4.05). **Conclusion**: A significant proportion of patients who underwent urologist-led intervention returned to the ED with renal colic. Further study may help clarify the role of early urologist referral for renal calculi, as this may not reduce ED return rates when compared to conservative management.

Keywords: emergency department, renal colic, specialist referral

P070

Mental health consultations for emergency department patients in crisis: Insights into quality improvement opportunities from a multicenter analysis

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Introduction: Mental health and addiction presentations are on the increase in Canadian Emergency Departments (EDs) and are placing strains on existing resources. The purpose of this study is to examine practice variations and opportunities for improved mental health (MH) consultation practices across four adult EDs. **Methods**: We conducted a retrospective analysis of administrative data from Alberta Health Services (AHS) at urban Calgary Zone EDs from 2015 to 2018 regarding MH consults requested and patients admitted to inpatient psych. Individual MD and overall referral rates as well as admission rates for patients consulted to MH were considered. Time of day and patient ETOH level were also examined as potential influencing factors. CEDIS codes were used to identify MH complaints. **Results**: 73,536 MH related visits were included, 29,228 received a MH consult with 10,648 admitted to an inpatient MH unit (36.4%). The admission rate among consults requested varied considerably among the 200 MDs who evaluated more than 50 patients with MH complaints; median 35.9%, IQR – 25.0 to 47.5. The average consultation rate for ETOH positive patients was 28.4% median 26.35%, IQR – 21.2 to 35.0% During regular working hours (08:00-17:00), there were 33,599 MH visits, 15,035 received a psych consult with 5,976 admitted to an inpatient MH unit. The admission rate among consults was 39.8%. For the remaining hours(17:01-07:59) there were 39,939 MH visits, 14,191 received a psych consult with 4,672 admitted to an inpatient MH unit. The admission rate among consults was 32.9%. **Conclusion**: Varying MD thresholds for MH consultation are reflected in a wide range of admission rates among patients consulted for MH evaluation in the ED. ETOH and timing of presentation are factors which modulate the likelihood of admission. There may be opportunities to improve MH referrals from the ED by providing consultation feedback to providers.

Keywords: quality improvement and patient safety

P071

A three-year analysis of adult protection patients in the emergency department

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Introduction: While boarding of patients in the emergency department (ED) has been well documented and is carefully monitored, the time spent in emergency beds by patients waiting for Adult Protection (AP) placement is often relatively unnoticed, as they are not flagged as 'admitted'. These patients have no emergency needs, yet consume considerable ED resources, often in excess of patients requiring emergency care. Staff familiarity with this issue may also

https://doi.org/10.1017/cem.2019.262 Published online by Cambridge University Press

bias them to premature diagnostic closure of patients as 'placement problems', risking misdiagnosis of active medical conditions. An observational study to retrospectively quantify the time spent in the ED by patients referred to AP services for urgent placement from the ED. **Methods**: A three-year audit of ED social work records of patients referred for AP. **Results**: For the period of October 1 2015-September 30, 2018, the ED social work service kept records of patients referred for AP from the ED. During this period, a total of 142 patients were referred to AP (40, 50, and 52 in each year respectively). There was an increase of 10 patients between 2015/16 and 2016/17 and two patients from 2016/17 to 2017/18. The overall length of stay for this subset of ED patients during this three-year period was alarmingly high, with an average length of stay of four days per patient (range 2.7 hours-18.5 days) compared to an average of all patients of 4.9 hours and admitted patients of 13.6 hours. **Conclusion**: Patients in the ED who are referred to AP services consume considerable ED resources, often requiring complete medical work-up, capacity assessments and close monitoring by multiple emergency personnel. This has been reported to cause considerable stress and friction between staff and consulting services. Furthermore, these patients are poorly served in a hectic, brightly lit, and noisy environment. The impact is often not fully appreciated due to ineffective capture by patient tracking systems.

Keywords: adult protection, emergency department flow, quality improvement and patient safety

P072

Comparing met vs. unmet palliative care needs in patients with end-stage conditions presenting to two Canadian emergency departments

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Introduction: Patients with end-stage conditions require integrated physical, spiritual, psychological and social care. Despite efforts to provide comprehensive community care, those with severe symptoms often present to emergency departments (EDs) with palliative care (PC) needs. The objective of this study was to identify patients with end-stage diagnoses presenting to EDs, and to document and compare their PC needs. **Methods**: A four-month prospective cohort study was conducted in two Canadian EDs. Using a modified PC screening tool, volunteer emergency physicians identified adult patients with end-stage illnesses and documented their PC needs. This tool has the ability to classify patients as having met vs. unmet PC needs based on the documentation of risk factors. Research assistants documented demographic information, severity at presentation (Canadian Triage and Acuity Scale {CTAS}), disposition and revisits from an electronic repository. Bivariate comparisons between patients with met vs. unmet PC needs were completed. **Results**: Overall, 663 patients were enrolled, of which 78% (n = 518/663) were identified as having unmet PC needs according to the screening tool. Cancer was the most prevalent condition in each group (43% unmet needs, 37% met needs). There was no significant difference between the two groups in terms of age, sex or CTAS score. The unmet PC needs group was more likely to be admitted (68% vs. 50%; p = 0.0001) when compared to patients with PC needs assessed as being met. No significant difference was noted in terms of time to physician assessment or ED length of stay. The two groups did not significantly differ in the proportion of return visits within 30 days (34% vs. 32%) or the average number of return visits (3 vs. 2 visits). A higher proportion of patients with unmet PC needs made at least one visit to the ED in the 6 months prior to their index visit compared to patients with met PC needs (74% vs. 51%, p < 0.001); yet, the average number of ED visits was similar between the groups (3 visits). **Conclusion**: This study revealed that patients with end-stage diagnoses, especially cancer, commonly have unmet PC needs. They are also more likely to present to the ED and to require hospitalization than patients in whom PC needs have been met. Further investigations into their clinical profile and health care utilization may clarify the impact of their unmet PC needs on the healthcare system.

Keywords: palliative care, unmet needs

P073

Consultations in the emergency department: a systematic review

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Introduction: While consultation is a common and important aspect of emergency department (ED) care, a previous systematic review identified significant utilization and process variation across ED's. The aim of this review update was to examine the proportion of the patients undergoing consultation in the ED among recent studies. **Methods**: Eight primary literature databases and the grey literature were searched. Studies published from 2007 to 2018 focusing on all-comers to the ED and reporting a consultation-related outcome were included. Disease- and specialty-specific studies were not eligible. Two independent reviewers screened studies for relevance, inclusion, quality assessment, and data extraction. Disagreements were resolved through consensus. Means, medians and interquartile ranges are reported. Wilcoxon-rank sum test and one-way ANOVA were used to identify differences between groups, as appropriate. **Results**: A total of 2632 unique citations and 49 studies from the grey literature were screened, of which 29 primary studies were included. Fifteen studies reported on the proportion of ED patients undergoing consultation, involving EDs in the Middle East (n = 4), North America (n = 4), Asia (n = 4), and Europe (n = 3). Overall, the proportion of patients receiving consultation ranged from 7% to 78% (median: 26%; IQR: 20%, 38%). There were no differences in the proportions of consulted patients based on country of origin. Ten studies were conducted prior to 2013, while five studies recruited patients during and after 2013. The mean proportion of consulted patients was lower for post-2012 studies compared to pre-2012 studies (mean: 18% vs. 36%; p = 0.0048). The proportion of consulted patients admitted to hospital ranged considerably between the 14 reporting studies (median: 56%; IQR: 49%, 76%). No differences in the proportion of admitted patients undergoing a consult were identified based on country of origin or year of recruitment for the study. **Conclusion**: Although consultation utilization appears to be decreasing overall, there is considerable practice variation in EDs around the world. These differences may result from variation in patient acuity, case-load, staffing levels, institutional and health-system organization, and medical training and future research should explore reasons for these differences.

Keywords: admission, consultation, systematic review