P067

Factors associated with prolonged length of stay of admitted patients in a tertiary care emergency department

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Introduction: Extended length of stay (LOS) in emergency departments (EDs) and overcrowding are a problems for the Canadian healthcare system, which can lead to the creation of a healthcare access block, a reduced health outcome for acute care patients, and decreased satisfaction with the health care system. The goal of this study is to identify and assess specific factors that predict length of stay in EDs for those patients who fall in the highest LOS category. **Methods:** A total of 130 patient charts from EDs in Regina were reviewed. Charts included in this study were from the 90^{th}-100^{th} percentile of time-users, who were registered during February 2016, and were admitted to hospital from the ED. Patient demographic data and ED visit data were collected. T-tests and multiple regression analyses were conducted to identify any significant predictors of our outcome variable, LOS. **Results:** None of the demographic variables showed a significant relationship with LOS (age: $p = .36$; sex: $p = .92$, CTAS: $p = .48$), nor did most of the included ED visit data such as door to doctor time ($p = .34$) and time for imaging studies (X-ray: $p = .56$; ultrasound: $p = .50$; CT $p = .45$). However, the time between the request for consult until the decision to admit did show a significant relationship with LOS ($p < .01$).Potential confounding variables analyzed were social work consult requests ($p = .14$), number of emergency visits on day of registration ($p = .62$), and hour of registration (00-12 or 12-24-$p < .01$). After adjustment for time of registration, using hierarchical multiple regression, time from consult request to admit decision maintained a significant predictor ($p < .01$) of LOS. **Conclusion:** After adjusting for the influence of confounding factors, "consult request to admit decision" was by far the strongest predictor of LOS of all included variables in our study. The results of this study were limited to some extent by inconsistencies in the documentation of some of the analyzed metrics. Establishing standardized documentation could reduce this issue in future studies of this nature. Future areas of interest include establishing a standard reference for our variables, a further analysis into why consult requests are a major predictor, and how to alleviate this in the future.

Keywords: length of stay, optimization, access block

P068

Patient satisfaction following educational ultrasounds in the emergency department

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Introduction: Development of point-of-care ultrasound (POCUS) image-generating skills requires residents to practice on patients awaiting care in the emergency department (ED) for unrelated reasons. While patients are almost universally agreeable to the scans, there is the possibility that they feel pressured to do so and may have negative experiences that go unreported. The objective of this study was to determine the self-reported patient satisfaction and identify any concerns after educational ultrasounds performed in the ED. **Methods:** We conducted a survey of patients at a single academic ED. Patients were eligible for enrollment if they had volunteered for an ultrasound when study personnel were available. The survey was administered by a representative from the Patient Affairs Department who advised the patients that the results would remain anonymous and would have no impact on their care. The survey included patient demographics, questions about the consent process, communication by the trainee, adverse reactions and patient satisfaction. The primary outcome was the overall satisfaction level reported by the volunteer patients on a 5-point Likert scale. Secondary outcomes included identification of any discomfort or concerns about the process as expressed by patients. Simple descriptive statistics were used to report survey results. **Results:** Ninety-nine patients fully completed the questionnaire. Fifty (50%) were women. The age range was 18 to 99 years. Satisfaction among volunteers was high, with 94% of respondents giving a rating of 4 or 5 (five being an excellent experience). No patients gave a negative rating (1 or 2). Three (3%) patients felt "somewhat" pressured to volunteer. A majority of patients (72%) experienced no discomfort during the scan however 16% experienced some physical discomfort. Comments indicated that too much pressure applied with the ultrasound probe or cold ultrasound gel were the main sources of discomfort. Despite some discomfort 95 (95%) patients stated they would likely volunteer again if asked in the future. **Conclusion:** ED patients volunteering as models for residents learning POCUS expressed generally positive perceptions of their experience. While only a small minority of patients experienced some discomfort or felt pressured into participating, it is important to ensure that patients have a process to communicate any concerns about educational ultrasounds in the ED.

Keywords: ultrasound, point-of-care ultrasound, satisfaction

P069

Prehospital amiodarone use could improve favorable neurological recovery among patients with out-of-hospital shockable cardiac arrest

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Introduction: Amiodarone may be used for shock-refractory ventricular fibrillation (VF) or pulseless ventricular tachycardia (pVT), but the effect of prehospital use upon neurological outcomes still unclear. **Methods:** A prospective province-wide, population based observational study was conducted from January 2006 to March 2016. Adult emergency medical service-treated non-traumatic OHCA patients who received at least one electric defibrillation were included. Amiodarone was administered to patients with VF/ pVT by paramedics based on their clinical assessment, according to provincial guidelines. The outcome of interest was favorable neurological outcomes to hospital discharge, defined as modified Rankin scale of 3 or less. Multivariable logistic regression was performed to compare the proportion of patients with the primary outcome between amiodarone and non-amiodarone groups, further stratified by the number of electrical defibrillation. In addition, to mitigate the potential selection bias, the same logistic regression was conducted in 1:1 propensity score matched groups adjusting for baseline covariates. **Results:** Of 3,374 overall OHCA patients, 915 (27.1%) were managed with amiodarone. In the amiodarone group, 150 / 915 (16.4 %) patients had a favorable neurological outcome, compared to 455/2,459 (18.5%) in the non-amiodarone group (crude odds ratio [OR] 0.86, 95% CI 0.71 to 1.06). In the multiple logistic regression model, prehospital amiodarone was associated with increased probability of favorable neurological outcomes (adjusted OR 2.11, 95% CI 1.46 to 3.05). With stratification by the number of electrical defibrillation performed, amiodarone treated group showed higher probability of favorable neurological outcomes (1 or 2: adjusted OR 2.71, 95% CI 1.33 to 5.50, 3 and more: adjusted OR 1.67, 95% CI 0.99 to 2.39). Similarly, in 1:1 propensity matched cohort including 882 OHCA patients, the adjusted association persisted (adjusted OR 2.14, 95% CI 1.33 to 3.44). **Conclusion:** Prehospital administration of

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amiodarone to non-traumatic OHCA patients was associated with better neurological recovery, especially in those who received fewer electrical defibrillations.
Keywords: cardiac arrest, out-of-hospital, amiodarone

P070

Mixed effectiveness of emergency department diversion strategies: a systematic review

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Introduction: Diverting patients away from the emergency department (ED) has been proposed as a solution for reducing ED overcrowding. The objective of this systematic review is to examine the effectiveness of diversion strategies designed to either direct patients seeking care at an ED to an alternative source of care. **Methods:** Seven electronic databases and grey literature were searched. Randomized/controlled clinical trials and cohort studies assessing the effectiveness of pre-hospital and ED-based diversion interventions with a comparator were eligible for inclusion. Two reviewers independently screened the studies for relevance, inclusion, and risk of bias. Intervention effects are reported as proportions (%) or relative risks (RR) with 95% confidence intervals (CI). Methodological and clinical heterogeneity prohibited pooling of study data. **Results:** From 7,306 citations, ten studies were included. Seven studies evaluated a pre-hospital diversion strategy and three studies evaluated an ED-based diversion strategy. The impact of diversion on subsequent health services was mixed. One study of paramedic practitioners reported increased ED attendance within 7 days (11.9% vs. 9.5%; $p = 0.049$) but no differences in return visits for similar conditions (75.2% vs. 72.1%; $p = 0.64$). The use of paramedic practitioners was associated with an increased risk of subsequent contact with health care services (RR = 1.21, 95% CI 1.06, 1.38), while the use of deferred care was associated with no increase in risk of subsequently seeking physician care (RR = 1.09, 95% CI 0.23, 5.26). While two studies reported that diverted patients were at significantly reduced risk for hospitalization, two other studies reported no significant differences between diverted or standard care patients. **Conclusion:** The evidence regarding the impact of pre-hospital and ED-based diversion on ED utilization and subsequent health care utilization is mixed. Additional high-quality comparative effectiveness studies of diversion strategies are required prior to widespread implementation.
Keywords: emergency department, diversion, pre-hospital

P071

Choosing Wisely in the emergency department: exploring the reach, support and potential for the Choosing Wisely Canada® campaign among emergency physicians

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Introduction: Choosing Wisely Canada® (CWC) launched in April 2012. Since then, the Emergency Medicine (EM) top-10 list of tests, treatments and procedures to avoid has been released and initiatives are on-going. This study explored CWC awareness and support among emergency physicians. **Methods:** A 60-question online survey was distributed to Canadian Association of Emergency Physicians (CAEP) members with valid e-mails. The survey collected information on demographics, awareness/support for CWC as well as physicians' perceived barriers and facilitators to implementation. Descriptive statistics were performed in SPSS (Version 24). **Results:** Overall, 324 surveys were completed (response rate: 18%). Respondents were more often male (64%) and practiced at academic/tertiary care hospitals (56%) with mixed patient populations (74%) with annual ED volumes of >50,000 (70%). Respondents were familiar with campaigns to improve care (90%). Among these respondents, 98% were specifically familiar with CWC and 73% felt these campaigns assisted them in providing high-quality care. Respondents felt that the top-5 EM recommendations were supported by high quality evidence, specifically the first 4 recommendations (>90% each). The most frequently reported barriers to implementation were: patients' expectations/requests (33%), the possibility of missing severe condition(s) (20%), and requirements of ED consultations (12%). Potential facilitators were identified as: strong evidence-base for recommendations (37%), medico-legal protection for clinicians who adhere to guidelines (13%), and support from institutional leadership (11%). **Conclusion:** CWC is well-known and supported by emergency physicians. Despite the low response rate, exploring the barriers and facilitators identified here could enhance CWC's uptake in Canadian emergency departments.
Keywords: emergency department, Choosing Wisely Canada, implementation

P072

Exploring definitions of "unnecessary care" in emergency medicine: a qualitative analysis of physician survey responses

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Introduction: Recently, campaigns placing considerable emphasis on improving emergency department (ED) care by reducing unnecessary tests, treatments, and/or procedures have been initiated. This study explored how Canadian emergency physicians (EPs) conceptualize unnecessary care in the ED. **Methods:** An online 60-question survey was distributed to EP-members of the Canadian Association of Emergency Physicians (CAEP) with valid emails. The survey explored respondents awareness/support for initiatives to improve ED care (i.e., reduce unnecessary tests, treatments and/or procedures) and asked respondents to define "unnecessary care" in the ED. Thematic qualitative analysis was performed on these responses to identify key themes and sub-themes and explore variation among EPs definitions of unnecessary care. **Results:** A total of 324 surveys were completed (response rate: 18%); 300 provided free-text definitions of unnecessary care. Most commonly, unnecessary ED care was defined as: 1) performing tests, treatments, procedures, and/or consults that were not indicated or potentially harmful ($n = 169$) and/or 2) care that should have been provided within a non-emergent context for a non-urgent patient ($n = 143$). Emergency physicians highlighted the role of system-level factors and system failures that result in ED presentations as definitions of unnecessary care ($n = 69$). They also noted a distinction between providing necessary care for a non-urgent patient and performing inappropriate/non-evidenced based care. Finally, a tension emerged in their description of frustration with patient expectations ($n = 17$) and/or non-ED referrals ($n = 24$) for specific tests, treatments, and/or procedures. These frustrations were juxtaposed by participants who asserted that "in a patient-centred care environment, no care is unnecessary" (Participant 50; $n = 12$). **Conclusion:** Variation in the definition of unnecessary ED care is evident among EPs and illustrates that EPs' conceptualization of unnecessary care is more nuanced than current