

objectives, utilization of other educational modalities and formal assessments to better prepare residents to conduct safer patient handoffs.

Keywords: handover, education, residency

P079

Comparison of vital sign documentation for pre-hospital “lift-assist” calls and non “lift-assist” calls

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Introduction: When an individual requires assistance with mobilization, emergency medical services (EMS) may be called. If treatment is not administered and the patient is not transported to hospital, it is referred to as a “Lift Assist” (LA) call. We have previously shown that LA are associated with morbidity and mortality. Subtle pathology may exist in those who require LAs and they may benefit from being transported to the Emergency Department for medical evaluation. Given that the majority of LA calls result in no-transport, there may be a bias towards not upholding the same standards of care as patients who are transported to hospital. **Objective:** To determine if there is a difference in Ambulance Call Record (ACR) documentation of vital signs between LA calls and non-LA calls. **Methods:** All LA calls from a single EMS agency were collected over a one-year period (Jan - Dec 2013). A control group of randomly selected calls of low acuity (Canadian Triage Acuity Scale 3,4,5) from the same time period was collected for comparison. ACRs from these calls were reviewed for missing vital sign documentation. **Results:** Of 42,055 EMS calls, 808 (1.9%) were LA calls. A comparison of 784 randomly-selected non-LA control calls were reviewed. There were significantly more missing vitals (12.08% vs 6.64% $p < 0.001$) and refused vitals (1.87% vs 0.51% $p = 0.013$). **Conclusion:** There is a significant discrepancy in the complete documentation of vital signs in LA calls vs non-LA calls. There were also significantly more patient refusals for obtaining vitals compared to transported patients. Abnormal vital signs may be a clue to a subtle disease process that has resulted in a LA call, thus care should be taken to ensure that these patients are treated with the same standards of care and documentation as those patients calling EMS for overt medical reasons.

Keywords: emergency medical services (EMS)

P080

Factors predicting morbidity and mortality associated with pre-hospital “lift assist” calls

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Introduction: When an individual requires assistance with mobilization, emergency medical services (EMS) may be called. If treatment is not administered and the patient is not transported to hospital, it is referred to as a “Lift Assist” (LA) call. We have previously shown that LA are associated with morbidity and mortality. What places patients at an increased risk for morbidity and mortality is not yet known. **Objective:** To determine factors that are associated with increased risk of 14 day morbidity, determined by an ED visit or hospital admission, and mortality in LA calls. **Methods:** All LA calls from a single EMS agency were collected over a one-year period (Jan - Dec 2013). These calls were linked with hospital records to determine if LA patients had a subsequent visit to the emergency department (ED), admission, or death within 14 days. Logistic regression analyses were run to predict ED visit or hospital admission within 14 days of the LA call from patients’ age,

gender, co-morbidities and vital signs at the initial LA call. **Results:** Of 42,055 EMS calls, 808 (1.9%) were LA calls. There were 169 (20.9%) ED visits, 93 (11.5%) hospital admissions and 9 (1.1%) deaths within 14 days of a LA. Patient age > 61 ($p < 0.001$) and history of cardiac disease ($p = 0.006$) significantly predicted ED visit, while patient age > 61 ($p = 0.001$) and an Ambulance Call Record (ACR) missing at least 1 vital sign ($p = 0.017$) significantly predicted hospital admission. There was a 10% increase in risk of ED visit and hospital admission for every 10 year increase of age after the age of 61. Of the 96 patients with at least 1 missing vital sign, 14 (14.5%) were coded as patient refusals. The sample size was too small to determine predictors for mortality. **Conclusion:** Patients at risk for morbidity are older than 61 years of age and have co-existing cardiac disease. Patients who are greater than 61 years of age and had at least one missing vital sign on the ACR were more at risk for hospital admission.

Keywords: emergency medical services (EMS), falls, geriatrics

P081

Adaptation of DECISION +, a training program in shared decision making on the use of antibiotics for acute respiratory infections in primary care, to the context of emergency department: a mixed methods study

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Introduction: Antibiotic overuse for acute respiratory infections (ARIs) is a significant problem in Emergency Departments (EDs). DECISION+, a training program on shared decision making (SDM) and a decision aid for antibiotic use in ARIs, reduces patients’ use of antibiotics for ARIs in primary care, but has never been studied in the ED setting. The objectives of this study are to assess the intention of ED physicians to adopt SDM about antibiotic use in ARIs and to identify barriers and facilitators about adopting SDM and a decision aid for antibiotic use in ARIs. **Methods:** An adapted version of DECISION+ (1-hour seminar) was offered to physicians of two academic EDs (Quebec, Canada) in fall 2015. A validated questionnaire was administered to participants before and after the seminar. This questionnaire contains three items measuring the intention to adopt SDM using a 7-point Likert scale [ranging from 1 (very unlikely) to 7 (very likely)]. We performed descriptive analyses for demographic characteristics and a paired Wilcoxon signed-rank test to compare pre- and post-training intention to adopt SDM ($\alpha = .05$). A debriefing session with the participants identified potential barriers and facilitators about implementing SDM and using a decision aid regarding antibiotic use for ARIs. Two researchers analysed the recorded audio material. **Results:** 41% (23/56) of eligible physicians received the intervention. 74% of participants had already heard of SDM and 40% felt they already used SDM in their practice. The median intention to adopt SDM was 6 (IQR 5-6) before and 6 (IQR 5-6) after the seminar ($P = .23$). One participant did not answer the questionnaire after the seminar and his results were excluded from the comparative analysis. We identified 20 specific barriers to adopting SDM for deciding about antibiotics use for ARIs in the ED (e.g., lack of time) and 13 facilitators (e.g., public health campaign). **Conclusion:** ED physicians’ baseline intention to adopt SDM with patients for antibiotic use in ARIs is high. The adapted tutorial of DECISION+ did not change this intention. This could be explained by the social desirability of SDM. Further studies must be conducted to adapt DECISION+ to the ED setting and also to assess the impact of DECISION+ on the actual prescription and use of antibiotics for ARIs.

Keywords: shared decision making, acute respiratory infections, patient education

P082

Correlation between serum and blood gas: a review on the accuracy of electrolyte readings obtained blood gases

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Introduction: In the Emergency Department (ED), increasing time pressures and acuity require physicians to have access to quick and reliable data to guide patient care decisions. Blood gases (BGs) allow quick access to key information, and are used frequently in the ED. Our objective was to review the literature on reliability and accuracy of electrolyte measurements obtained from BGs in high acuity settings. **Methods:** A comprehensive literature review was conducted in September of 2015. The search strategy, done in conjunction with a medical librarian, identified studies that assessed the accuracy of BGs when compared to traditional laboratory serum measurements. Prior to the review we determined sodium and potassium would be the area of focus. Eligibility parameters for the studies included samples from acute care areas - the ED and ICU - and a comparison of BG and serum values taken simultaneously from the patient. **Results:** Our review included 12 studies, 9 in adult and 3 in pediatrics. There were approximately 1,135 patients included, consisting of 851 adult and 284 pediatric cases. The results were mixed; 9 studies agreed that sodium and potassium readings from BGs were accurate enough to guide acute care decisions, 5 did not. Furthermore, important questions were raised regarding the varying accuracy of BGs depending on what physiological level the electrolytes were at during the time of collection, i.e. at critical vs non-critical levels. **Conclusion:** This is the first literature review to examine the existing evidence on the accuracy of BGs in acute care environments. Given the variability in the results, a larger study needs to be done to determine the validity and reliability of blood gases for electrolytes in acute care settings. Only by ensuring the accuracy of data collected via point-of-care BGs can the most informed decisions be made surrounding patient care in acute care settings.

Keywords: blood gas, electrolytes

P083

Why do older adults in assisted living facilities use the emergency department: are all these visits necessary?

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Introduction: Special Care Home (SCH) residents require supervision for activities of daily living but not regular nursing care. Emergency Department (ED) use by seniors in SCHs is poorly studied. A recent study in Nova Scotia found seniors represented over 20% of ED visits. We studied SCH resident ED visits in a community with a population of 30,000 aged over 65 years and with 785 SCH beds, to define reasons for ED visits to a tertiary ED, and if these could be avoided. **Methods:** We performed a retrospective chart review of SCH residents' visits to an ED (SCH-ED) which has 56,000 total ED (TED) visits over one year. Reasons for visit, admission data, and avoidability were collected. A geriatrician and ED physician independently reviewed visits. Initial disagreement on avoidability (27%) was adjudicated through case discussion. **Results:** Demographic data revealed 344 ED visits by 111 SCH residents over one year; 37% of visits resulted in admission. 13.9% of

residents visited the ED on at least one occasion (average 3.1 visits); mean age 78.4 years; female 66.7%; ambulance arrival 91.0%. The three most common chief complaints were *shortness of breath, weakness and abdominal pain*. Most SCH-ED visits were Canadian Triage and Acuity Scale (CTAS) Level 3 (63.4%, TED 53.3%). Of CTAS Level 3 visits, 35.3% were admitted (TED 12.9%). SCH-ED visits were avoidable in 40.6% of cases. Gastrointestinal (18%), pain (16.5%), falls, functional decline or injury (14%) and respiratory (12%) were the most common avoidable diagnostic groups, accounting for 57% of total SCH visits.

Conclusion: ED visits by SCH residents demonstrated increased acuity and admission rates with a high number of repeat visits. Of all SCH-ED visits, 40% were potentially avoidable. Further study may determine if improved community services reduces ED visits or hospital admission. Gastrointestinal, respiratory, falls and pain diagnoses may be important areas of focus.

Keywords: assisted living, seniors, emergency visit

P084

Waiting makes me sick: is it time for formal triage in primary care?

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Introduction: Patient morbidity and mortality are influenced by delay in access to care and lack of continuity of care. Patients frequently present to the emergency department (ED) for care despite being registered with a primary care (PC) provider. Advanced access is an open scheduling system promoted by the College of Family Physicians of Canada that triages primary care (PC) patients to be seen within 24 hours, reducing care delay. We wished to determine the prevalence of formal triage systems in PC appointment allocation. **Methods:** We performed linked cross sectional surveys to quantify the number of ambulatory patients presenting to a tertiary urban ED (with an annual census of 56,000 visits) who felt unable to access primary care. PC practices were also surveyed to assess use of formal triage methods and measure access using the metric of time to third next available appointment. Descriptive statistics were calculated. **Results:** In the patient survey, 381 of 580 patients consented to participate. Of those, 324 patients reported reasons for their ED visit. Perception that wait time for PC was "too long" was reported in 73/324 (23%); 86% reported wait times of greater than 48 hours. The PC practice response rate was 63.8% (46/72). The mean time to third next available appointment was 7.7 (95% CI 4.9-10.5) days (median 5 days, range 0-50 days). No PC practice reported utilizing a formal triage system when booking appointments. **Conclusion:** No primary care practices in the surveyed region used a formal triage system to allocate appointments, despite a range of wait times that extended up to 50 days. The safety of primary care appointment allocation may be improved with introduction of a formal triage system, especially if overall wait times cannot be reduced.

Keywords: triage, primary care, advanced access

P085

A low-cost solution to high-risk problem: enhancing communication of emergency physician x-ray interpretations to reading radiologist

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Introduction: There was a recognized lack of available system for Emergency Physicians (EPs) to communicate their x-ray interpretations to the reading Radiologist; this resulted in unnecessary flagging of cases with significant findings already seen by the EP or the possibility of