

Introduction: An emergency department visit may represent a sentinel event for someone who is older and frail, signalling a slide into dependence and functional decline. The gold standard for the treatment of frail older adults is a comprehensive geriatric assessment, involving consideration of multiple domains including mobility and function in activities of daily living. Despite this, when a chart audit was conducted in a Canadian metropolitan emergency department, none of the patients age 65 and older had a documented assessment of their function or mobility. In response, an occupational therapy program was implemented. The goals of this program were to reduce the number of unnecessary hospital admissions related to patient functional impairments, and to increase function, safety, and independence for patients upon discharge from the emergency department. **Methods:** The pilot project, which was completed in 2013, was evaluated using a mixed methods approach. Positive patient outcomes at that time included a reduction in avoidable admissions and better support for patients upon discharge from the emergency department. A survey of emergency department staff indicated that occupational therapy consultation added value to the diagnostic and discharge planning processes. However, due to changes in administrative priorities, several service redesigns were required. Multiple PDSA cycles were completed, and the development of a logic model guided and focused program development. **Results:** A reassessment of program objectives was conducted using 2015 data, which found that the number of patients seen by the occupational therapist remained the same, as did the percentage of patients discharged with support of occupational therapy intervention, such as provision of adaptive equipment or referral to community rehabilitation referrals. The percentage of patients discharged due to occupational therapy as a primary contributing factor rose slightly, and staff satisfaction with the program remained high. **Conclusion:** This evaluation proves that the provision of occupational therapy services in the emergency department is sustainable, benefits patients, and can be incorporated into the emergency department workflow and culture.

Keywords: quality improvement and patient safety, allied health care, frail elderly

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Point of care biliary ultrasound in the emergency department (BUSED): implications for surgical referral and emergency department wait times

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Introduction: Patients with uncomplicated biliary disease frequently present to the emergency department for assessment. To improve bedside clinical decision making many emergency medicine physicians have pursued specialized training to perform point of care biliary ultrasound in the emergency department (BUSED). The purpose of this study was to determine the usefulness of BUSED in predicting the need for surgical consultation and intervention for biliary disease. **Methods:** A retrospective study of 283 consecutive patients visiting the emergency department who received a BUSED scan from December 1, 2016 to July 16, 2017. Physician interpretations of the BUSED scans were collected from the electronic image storage and interpretation system. Additional data was collected from the electronic health record including lab values, the subsequent use of diagnostic imaging, and outcomes data including disposition, surgical consultation or intervention, and 28 day follow up for representation or complication. Descriptive statistics and logistic regression were performed. **Results:** Of the patients who received a biliary POCUS scan, 29% were referred to general surgery, and 43% of those referred proceeded to eventual cholecystectomy.

Factors found to be independently predictive of surgical intervention on point of care BUSED scans included presence of gall stones (OR 13.01, 95% CI 5.02 to 27.1) and increased gallbladder wall thickness (OR 6.01, 95% CI 1.7 to 11.1). A total of 30% of patients receiving BUSED required at least one additional, radiology based imaging test (CT or diagnostic US). Average emergency department length of stay was substantially longer for those who required additional imaging as compared to those who were able to be diagnosed by BUSED alone (16.1 versus 5.2 hours, 10.9 hours 95% CI 10.6 11.2, $p < 0.05$). **Conclusion:** Point of care biliary ultrasound performed by emergency physicians provides timely access to diagnostic information. Positive findings of gall stones and increased gall bladder wall thickness are highly predictive of the need for surgical intervention. Future, prospective studies are warranted to determine if point of care sonography is sufficient to proceed to surgery in select cases of uncomplicated biliary disease.

Keywords: point-of-care ultrasound, biliary disease

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Preparedness of Canadian physician offices for paediatric emergencies

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Introduction: Background: Studies in the US have demonstrated that many primary care staff and offices are inadequately prepared for paediatric emergencies. Although the Canadian Paediatric Society (CPS) recently reaffirmed their Guidelines for Paediatric Emergency Equipment and Supplies for a Physicians Office, no evaluation has been made regarding the impact of publishing these recommendations, or on the state of preparedness for paediatric emergencies in family physician offices. Objectives: The aim of this study was to evaluate awareness and adherence of family physicians in Ontario to the CPS guidelines on preparedness for paediatric emergencies. **Methods:** We conducted a province-wide, cross-sectional survey of 749 randomly selected family physicians. Participants were asked to complete a 14-question survey regarding clinic characteristics, incidence of paediatric emergencies, and preparedness of the clinic in the case of a paediatric emergency. Ethics approval was obtained from the regional Ethics Review Board. **Results:** 104 physicians responded to our Ontario survey (response rate of 14.8%). 71.2% of respondents reported seeing more than 10 children per week, and 58.7% had experienced at least one paediatric emergency in the past year. The proportion of physicians reporting paediatric emergencies within the last year increased with the number of children seen - 37.9% of physicians who saw fewer than 10 children per week reported an emergency, compared to 85.7% of those who saw more than 40 children per week. 85.6% of respondents reported that they were unaware of the CPS guidelines on paediatric emergency preparedness. Only 9.6% of respondents were aware of the guidelines, and even fewer, 3.8% had read them. Of the physicians who were unaware of the guidelines, 4.5% [CI=0.2, -0.09] engaged in mock code sessions, 29.2% [CI=0.2, 0.2] were up-to-date on Paediatric Advanced Life Support (PALS), 1.1% [CI=0.03, -0.01] had written protocols outlining safe transport of children to hospitals, and 50.6% [CI=0.4, 0.6] stocked half or more of the recommended supplies. In comparison, of the physicians who were aware of the guidelines, 14.3% [CI=0.3, -0.04] engaged in mock code sessions, 35.7% [CI=0.1, 0.6] were up-to-date on PALS, 7.1% [CI=0.2, -0.06] had written protocols, and 78.6% [CI=0.8, 0.8] stocked half or more of the recommended supplies. **Conclusion:** A large proportion of respondents had experienced at least one paediatric emergency in the past year, but were overall under-prepared. The majority of respondents, 85.6%, were not aware of the

guidelines, compared to 9.6% who were aware of them. However, offices with the latter were more adherent to the guidelines recommendations. It will be important for CPS to consider how to further advocate for paediatric emergency preparedness in clinics that see children regularly.

Keywords: paediatrics, community, emergency

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Exploring health care connections and transitions in care for patients presenting to emergency departments with acute wheezing illnesses

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Introduction: Asthma and/or chronic obstructive pulmonary disease (COPD) exacerbations often result in emergency department (ED) visits. This study examined the health-related personnel providing regular care to patients with asthma and/or COPD, as well as, explored the coordination of care between the ED and outpatient settings. **Methods:** Descriptive cross-sectional examination of patients presenting with asthma and/or COPD exacerbations to two EDs in Edmonton between August and December 2017. Using patient interview methods information on demographics, established health care connections and health system use was collected; information on consultations, disposition and referrals was collected through chart review methods. **Results:** A total of 50 patients were recruited (14 patients with asthma and 36 patients with COPD). Most of the patients with asthma were female (64%) and their median age was 36 years (interquartile range [IQR]: 29, 46); sex was evenly distributed among the patients with COPD and their median age was 68 years (IQR: 61, 78). The majority reported having a family doctor (86% of the patients with asthma and 94% of the patients with COPD). On the day of admission to the ED, 29% of the patients with asthma visited their family doctor while 42% of the patients with COPD visited their Respiriologist; these doctors referred >70% of the patients to the ED. While in the ED, consultations were requested in 21% of the patients with asthma (all to Pulmonary) and in 78% of the patients with COPD (evenly divided between Medicine and Pulmonary). Transition coordinators and social workers were involved in the ED care of <15% of the patients with COPD. Most patients with asthma were discharged home (86%) and 64% of the patients with COPD were hospitalized. After discharge, 14% of the patients with asthma and 50% of the patients with COPD were referred to specialized care. **Conclusion:** While the study patients with asthma and COPD had different health professionals providing regular care to their respiratory conditions, they both sought care before presenting to the ED. More health professionals were involved in the ED care of patients with COPD than of those with asthma. This study provided important information to support further research projects exploring ways to effectively and efficiently improve the delivery, comprehensiveness and utilization of health care services. **Keywords:** transitions in care, respiratory, emergency department

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Utilization of personal mobile devices to record patient data by emergency physicians and residents

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Introduction: The use of personal mobile devices to record patient data appears to be increasing, but remains poorly studied. We sought to

determine the magnitude and purposes for which Canadian emergency physicians (EPs) and residents use their personal mobile devices (PMDs) to record patient data in the emergency department (ED).

Methods: An anonymous survey was distributed to EPs and residents in the Canadian Association of Emergency Physicians (CAEP) database between 27/02/17 and 23/03/17. The survey captured demographic information and information on frequency and purpose of PMD use in the ED, whether consent was obtained, how the information was secured, and any possible implications for patient care. Participants were also asked about knowledge of, and any perceived restrictions from, current regulations regarding the use of PMDs healthcare settings.

Results: The survey response rate was 23.1%. Of 415 respondents, 9 surveys were rejected for incomplete demographic data, resulting in 406 participants. A third (31.5%, 128/406, 95% CI 27.0-36.3) reported using PMDs to record patient data. Most (78.1%) reported doing so more than once a month and 7.0% reported doing so once every shift. 10.9% of participants indicated they did not obtain written or verbal consent. Reasons cited by participants for using PMDs to record patient data included a belief that doing so improves care provided by consultants (36.7%), expedites patient care (31.3%), and improves medical education (32.8%). 53.2% of participants were unaware of current regulations and 19.7% reported feeling restricted by them. Subgroup analysis suggested an increased frequency of PMD use to record patient data among younger physicians and physicians in rural settings. **Conclusion:** This is the first known Canadian study on the use of PMDs to record patient data in the ED. Our results suggest that this practice is common, and arises from a belief that doing so enhances patient care through better communication, efficiency, and education. Our findings also suggest current practices result in risk of both privacy and confidentiality breaches, and thus support arguments for both physician education and regulation reform.

Keywords: mobile device, personal health information, emergency medicine

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Exploring educational innovation: out of the shadows of shadow week

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Introduction: In the third year of medical school, students participate in a four week period called Transition to Clerkship, followed by Shadow week, where students spend one week in the discipline prior to starting clerkship. In the past, students have identified that receiving specific additional training during Shadow week would help them succeed in their rotation. To address this problem, the curriculum discussed in this paper is being developed for third year students who will be commencing clerkship in Emergency Medicine (EM). **Methods:** In order to assess achievement of objectives within the curriculum, questionnaires were provided to participants in the morning and afternoon of the session, as well as at the end of their rotation. Evaluative analysis is done through the Kirkpatrick program evaluation framework based on descriptive comparison of scores on the questionnaires, followed by statistical analysis with the Mann-Whitney Test (2-tailed, $p=0.05$) and a reflective critique. **Results:** Learning activities in this curriculum included: case-based learning, video critique, role play, scavenger hunt, jigsaw activity, think-pair-share, and a game-show style game. This study aims to show if, and how, providing interactive, hands-on learning sessions, which are directly relevant to clinical practice in the emergency department, positively impacted medical students beginning their clerkship in EM. **Conclusion:** Learners showed statistically significant