

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

P154

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

B. H. Rowe, MD, MSc, C. Villa-Roel, MD, PhD, M. Bhutani, MD, S. Couperthwaite, BSc, N. Runham, BScN, Department of Emergency Medicine, University of Alberta, Edmonton, AB

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

P155

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

K. E. Walker, BSc, BEd, MD, D. Migneault, MD, CM, MSBe, H. C. Lindsay, MD, MPH, R. B. Abu Laban, MD, MHSc, University of British Columbia Emergency Medicine Residency Program, Vancouver, BC

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

P156

Exploring educational innovation: out of the shadows of shadow week

T. Wawrykow, MD, H. Mawdsley, MAL(H), BSc, Rady Faculty of Health Sciences, University of Manitoba, Winnipeg, MB

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

positive improvement on all learning objectives of the curriculum. A reflective critique provides insight into lessons learned from delivering this curriculum and future directions for this curriculum. This learner-centered curriculum with innovative teaching methods and a considerable number of active learning strategies has encouraged the learners to take responsibility for their own learning. While this curriculum took place in the medical school, it can apply equally to learners completing their EM clerkship in a community or tertiary Emergency Department.

Keywords: innovations in emergency medicine education, undergraduate education, active learning

P157

Pain management post-emergency department discharge: how are analgesics being consumed by patients with ongoing pain?

S. A. Weicker, MSc, B. J. Tuyp, MD, S. Wormsbecker, MD, University of British Columbia, Vancouver, BC

Introduction: Pain management is a cornerstone of emergency department (ED) practice, yet ongoing pain after ED discharge and return visits for inadequate analgesia are common. Over-the-counter (OTC) acetaminophen and nonsteroidal anti-inflammatory drugs are widely accepted first line agents for mild to moderate pain. Previous research has not investigated how patients actually consume such agents after discharge, and if they consume them synergistically and at sufficient doses for optimal analgesia. We sought to determine the proportion of patients in ongoing pain post-discharge that were utilizing analgesics as well as the type and dose of agent(s) used. **Methods:** Adults presenting to our ED with an acutely painful musculoskeletal complaint during research assistant hours were eligible for enrollment. After excluding non-English speakers as well as admitted, pregnant/breast-feeding, and chronic pain patients, consenting subjects completed in-person questionnaires during their ED stay and a follow-up telephone interview 2-3 days later. **Results:** 158 individuals were approached during the study period, of which 99 enrolled. 78 completed follow-up. At follow-up, 71 (91%) individuals experienced ongoing pain with a median score of 5 (interquartile range (IQR) 3-6) on an 11-point scale. 48 (67%) of patients still in pain consumed analgesics in the preceding 24 hours. The most commonly used agents were acetaminophen by 18 individuals (38% of analgesic users), ibuprofen by 16 (33%), and naproxen by 9 (19%). 29 respondents (60% of analgesic users) were using solely oral OTC analgesics. Only 15 (31% of analgesic users) used multiple agents concurrently, and 11 (23%) used prescription opioids. Acetaminophen was used at a median daily dose of 1500mg (IQR 1000-2000mg), much lower than that recommended for maximal analgesia (4000mg). Ibuprofen daily doses (1200mg, IQR 800-1300mg) were slightly lower than typical recommended doses (1600mg, 400mg every 6 hours). **Conclusion:** Only two-thirds of patients with ongoing pain at 2-3 days post-ED discharge were consuming analgesics, most commonly acetaminophen and ibuprofen. Of patients using analgesics, less than one-third used multiple agents. OTC medications are not used by most patients at doses for maximal analgesia. It may be possible to reduce pain burden and repeat-visits in discharged ED patients by optimizing the use of OTC analgesics.

Keywords: analgesia, pain management

P158

Sensitivity analysis of CTAS temperature modifier in the emergency department

M. A.J. Weldon, MSc, MD, M. Bullard, MD, A. Gauri, MSPH, G. Golberg, J. Priya, Red Deer Regional Hospital, Red Deer, AB

Introduction: The importance of early recognition and treatment of Sepsis has been emphasized over the last several years. In an attempt to better prioritize these patients, the Canadian Triage and Acuity Scale (CTAS) revised the adult temperature modifier after 2008 to define fever as 38.0C or higher and apply SIRS criteria, appearance and immunocompromise to assign a CTAS level of 2, 3, or 4. Prior to 2008, the fever threshold was defined as 38.5C and SIRS criteria were not included. This study looks to see if these changes increased the sensitivity of the temperature modifier. **Methods:** This study is a retrospective cohort analysis of patients presenting with a temperature of <36.0C or >38.0C to six Edmonton-area EDs in calendar years 2008 (n = 26181) and 2012 (n = 51622). Outcomes of interest included the temperature modifier predicted score and the actual assigned CTAS score. Data was extracted from the HASS/iSoft EDIS database including: presenting complaint, vital signs, CTAS score, and applied CTAS modifier to generate a before and after comparison of the actual and theoretical impact of temperature modifier revisions on the CTAS score, for both time periods. **Results:** Applying the pre-2008 temperature modifier to the 2008 patient cohort assigned 11.5% to CTAS 2, 39.8% to CTAS 3, and 33.3% to CTAS 4. Applying the post-2008 revised temperature modifier assigned 22.2% CTAS 2, 41.9% CTAS 3, and 27.6% CTAS 4. Carrying out the same analysis on the 2012 patients pre-results were 12.4% CTAS 2, 46.4% CTAS 3, 30.2% CTAS 4; and the post results were 21% CTAS 2, 47.7% CTAS 3, and 25% CTAS 4. Differences between pre- and post-results were statistically significant (p < 0.0001) in both years. The actual triage scores in 2012 were 18.7% CTAS 2 indicating the temperature modifier was not always correctly applied and 50.6% CTAS 3 as other modifiers were sometimes applied. **Conclusion:** There was a significant increase in sensitivity following the post 2008 revisions to the CTAS temperature modifier when applied to two large ED patient cohorts. The differences between theoretical and actual CTAS scores was less dramatic as nurses were able to apply other first order or special modifiers to assign an appropriate score. Further analysis will be carried out to determine the impact of the temperature modifier revisions on time to antibiotic and admission rates.

Keywords: triage, sepsis, sensitivity

P159

Identifying the cause for inappropriate urine cultures in a Canadian urban academic emergency department

A. M. Wu, MD, L. Matukas, MD, L. Hicks, MD, MSc, P. O'Brien, MA, M. McGowan, MHK, A. Cheng, MD, MBA, University of Toronto, Toronto, ON

Introduction: Inspired by the Choosing Wisely® campaign, St. Michaels Hospital (SMH) launched an initiative to reduce unnecessary tests, treatments and procedures that may cause patient harm. Stakeholder engagement identified inappropriate ordering of urine culture & sensitivities (C&S) in the emergency department (ED) as a focus area. Inappropriate urine C&S increase workload, healthcare costs and detection of asymptomatic bacteriuria which can lead to unnecessary antibiotics. The project's purposes were to describe the scope of inappropriately ordered urine C&S in the SMH ED and to conduct a root-cause analysis to inform future quality improvement interventions. **Methods:** Criteria for determining appropriateness was developed a priori using evidence-based guidelines from the University Health Network together with additional literature review. A retrospective chart review was performed on all urine C&S ordered in the ED from Jun 1 Aug 30, 2016. Each chart was reviewed for order appropriateness, demographic information and ordering provider. All inappropriate urine C&S were reviewed to identify root causes which were then grouped