

making, while cautioning the need for a nuanced approach respectful of different maturity levels, cultures and individual experiences. **Conclusion:** This study reveals a concerning gap between perceived preparedness and actions taken in preparation to be an SDM for loved ones suffering critical illness. The results also highlight the potential role for high school education to address this gap. Future studies should further explore the themes identified to inform development of resources and curricula for improved health literacy in resuscitation and end-of-life care. **Keywords:** public education, public health, substitute decision making

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A prospective cohort study characterizing 30-day recurrent emergency department visits for hyperglycemia

J. Yan, BSc, MD, MSc, D. Azzam, BSc, M. Columbus, PhD, K. Van Aarsen, MSc, Western University, London Health Sciences Centre, London, ON

Introduction: Hyperglycemic emergencies, including diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic state (HHS), often recur in patients who have poorly controlled diabetes. Identification of those at risk for recurrent hyperglycemia visits may improve health care delivery and reduce ED utilization for these patients. The objective of this study was to prospectively characterize patients re-presenting to the emergency department (ED) for hyperglycemia within 30 days of an initial ED visit. **Methods:** This is a prospective cohort study of patients ≥ 18 years presenting to two tertiary care EDs (combined annual census 150,000 visits) with a discharge diagnosis of hyperglycemia, DKA or HHS from Jul 2016–Nov 2018. Trained research personnel collected data from medical records, telephoned patients at 10–14 days after the ED visit for follow-up, and completed an electronic review to determine if patients had a recurrent hyperglycemia visit to any of 11 EDs within our local health integration network within 30 days of the initial visit. Descriptive statistics were used where appropriate to summarize the data. **Results:** 240 patients were enrolled with a mean (SD) age of 53.9 (18.6) years and 126 (52.5%) were male. 77 (32.1%) patients were admitted from their initial ED visit. Of the 237 patients (98.8%) with 30-day data available, 55 (23.2%) had a recurrent ED visit for hyperglycemia within this time period. 21 (8.9%) were admitted on this subsequent visit, with one admission to intensive care and one death within 30 days. For all patients who had a recurrent 30-day hyperglycemia visit, 22/55 (40.0%) reported having outpatient follow-up with a physician for diabetes management within 10–14 days of their index ED visit. 7/21 (33.3%) patients who were admitted on the subsequent visit had received follow-up within the same 10–14 day period. **Conclusion:** This prospective study builds on our previous retrospective work and describes patients who present recurrently for hyperglycemia within 30 days of an index ED visit. Further research will attempt to determine if access to prompt follow-up after discharge can reduce recurrent hyperglycemia visits in patients presenting to the ED.

Keywords: emergency medicine, hyperglycemia, recurrent visits

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“I wasn’t oriented a lot, so I’m essentially learning as I go”: onboarding and transition to practice of new emergency physicians

M. Yeung, MD, MEd, W. Cheung, MD, MEd, G. Hebert, MD, A. Gee, MD, University of Ottawa, Department of Emergency Medicine, Ottawa, ON

Introduction: Transition to the attending physician role and onboarding at a new workplace are often stressful. Effective initiation is important to individuals as well as departments, hospitals and universities wishing to retain valuable staff. Our aim was to learn about early experiences from the perspective of new staff and apply these findings to develop a new onboarding program. **Methods:** Following a pilot study of individual interviews, we surveyed and conducted focus group interviews with all attending physicians who had joined our dual site, urban, academic emergency department within three years. We used a mixed quantitative and qualitative approach to collect and analyze data. We applied the data to develop a new needs-based formal onboarding program. **Results:** 24/36 participated in the survey, 22/36 in focus groups. 95% were 30–39 years old. Newcomers described the existing orientation as too brief, non-specific, and missing essential elements. We identified six onboarding themes: (1)clinical protocols and reference documents, (2)graduated responsibilities, (3)mentorship, (4)relationship building, (5)department structure and culture, and (6)emotions. We formed a committee to develop and implement these initiatives: (1)a new online platform enables easy access to clinical care and orientation documents, (2)a formal mentorship program matches each newcomer with 2 mentors to coach towards goals, navigate department structure and culture, and provide perspective to mitigate strong emotions, (3)adjusting shift and teaching assignments allows newcomers to ease into clinical and academic responsibilities, and (4)our next priority is to improve clarity around academic opportunities, expectations, and advancement. **Conclusion:** New emergency physicians are highly engaged and provided many insights on their orientation experiences. Using mixed methods, we identified six themes to guide the design and implementation of a program to promote successful integration of newcomers.

Keywords: onboarding, transition to practice

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Orthomageddon: An epidemiological analysis of weather-dependent mass-casualty incidents in a Canadian city

M. Yeung, C. Schweitzer, MD, D. Wang, MSc, E. Lang, MDCM, University of Calgary, Calgary, AB

Introduction: Unique weather patterns on March 16th, 2017 led to 3 times the number of emergency department (ED) visits due to fall-injuries (FIs) on snow or ice compared to winter averages. The objective of the study was to identify weather-dependent differences in demographics, length-of-stay (LOS) predictors, and volume of ED presentations for winter FIs. We placed emphasis on Chinook phenomenon (rapid freeze-thaw cycles) common east of the Rocky Mountains. **Methods:** Patients with extremity injury due to fall on snow or ice were identified from the Alberta Health Services ED database from November 1st 2013 to March 31st 2018. We conducted regressions, chi-square analysis, bivariate correlations, and t-tests to identify differences in post-Chinook, high-volume, and regular winter patient cohorts. High-volume dates included any date with more than 25 FI presentations, representing a 400% increase from the daily average of 5. **Results:** We identified 3478 patients, with females more likely to present, $X^2(1, N = 3480) = 443.266, p < 0.001$, making up 67.8% of the total cohort. Mean age was 48.2 (SD ± 19.9) in all patients, and 48.4 (SD ± 20.0) among the post-Chinook cohort. Looking at ED LOS in the full patient cohort, age over 65 predicted longer ED LOS (mean = 4.23, SD ± 3.06) compared to younger age groups (mean = 3.42, SD ± 2.39), $t(3478) = -7.37, p < 0.001$. Patients with

fractures to the wrist or hand had shorter ED LOS (mean = 2.50, SD \pm 5.83) than those without (mean = 10.95, SD \pm 92.54), $t(3478) = 2.64$, $p = 0.008$. Among admitted patients, results were similar, with elevated inpatient LOS for patients over the age of 65 (mean = 171.71, SD \pm 508.35) compared to younger patients (mean = 45.45, SD \pm 39.53), $t(3478) = -3.41$, $p = 0.001$. Patients with radius fractures had shorter LOS (mean = 61.87, SD \pm 210.37) compared to those without (mean = 288.83, SD \pm 632.29), $t(3478) = 3.87$, $p < 0.001$. With respect to volume and weather, night-freezing events (below-freezing temperatures the preceding day, followed by freezing temperatures prior to 0600 hours the following day) were more likely to result in high FI volume (OR, 8.08; 95% CI, 5.14, 12.07; $p < 0.001$) as were recent Chinook events (OR, 1.39; 95% CI, 1.06, 1.81; $p = 0.017$).

Conclusion: Chinook-induced meteorological mass-casualty events can be severe, but do not target populations distinct from winter averages. They can be predicted based on forecasted weather variations and should be considered for population-level alerts utilizing cellular technology.

Keywords: fall, mass-casualty incident, weather

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Does a communications skills intervention improve emergency department staff coping skills and burnout?

F. Zhou, BSc, M. Howlett, MD, J. Talbot, MD, J. Fraser, BN, B. Robinson, PhD, P. Atkinson, MBChB, MA, Memorial University, St John's, NL

Introduction: Emergency department (ED) staff carry a high risk for the burnout syndrome of increased emotional exhaustion, depersonalization and decreased personal accomplishment. Previous research has shown that task-oriented coping skills were associated with reduced levels of burnout compared to emotion-oriented coping. ED staff at one hospital participated in an intervention to teach task-oriented coping skills. We hypothesized that the intervention would alter staff coping behaviors and ultimately reduce burnout.

Methods: ED physicians, nurses and support staff at two regional hospitals were surveyed using the Maslach Burnout Inventory (MBI) and the Coping Inventory for Stressful Situations (CISS). Surveys were performed before and after the implementation of communication and conflict resolution skills training at the intervention facility (I) consisting of a one-day course and a small group refresher 6 to 15 months later. Descriptive statistics and multivariate analysis assessed differences in staff burnout and coping styles compared to the control facility (C) and over time.

Results: 85/143 (I) and 42/110 (C) ED staff responded to the initial survey. Post intervention 46 (I) and 23 (C) responded. During the two year study period there was no statistically significant difference in CISS or MBI scores between hospitals (CISS: (Pillai's trace = .02, $F(3,63) = .47$, $p = .71$, partial $\eta^2 = .02$); MBI: (Pillai's trace = .01, $F(3,63) = .11$, $p = .95$, partial $\eta^2 = .01$)) or between pre- and post-intervention groups (CISS: (Pillai's trace = .01, $F(3,63) = .22$, $p = .88$, partial $\eta^2 = .01$); MBI: (Pillai's trace = .09, $F(3,63) = 2.15$, $p = .10$, partial $\eta^2 = .01$)).

Conclusion: We were not able to measure improvement in staff coping or burnout in ED staff receiving communication skills intervention over a two year period. Burnout is a multifactorial problem and environmental rather than individual factors may be more important to address. Alternatively, to demonstrate a measurable effect on burnout may require more robust or inclusive interventions.

Keywords: burnout, emergency department

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Why emergency department journey: piloting a patient poster explaining the emergency department care process

L. Krebs, MSc, C. Villa-Roel, MD, PhD, D. Ushko, G. Sandhar, H. Ruske, BN, S. Couperthwaite, BSc, B. Holroyd, MBA, MD, M. Ospina, MSc, PhD, B. Rowe, MD, MSc, University of Alberta, Edmonton, AB

Introduction: Qualitative research with emergency department (ED) patients in Alberta has revealed that some patients have limited understanding of the ED care process and that this increases the anxiety, frustration and confusion experienced throughout their visit. The objective of this study was to design, implement, and test the usefulness of a poster explaining the ED care process.

Methods: As part of a stepped-wedge ED intervention trial in Alberta, a 4' x 3' poster portraying the patient ED care process was developed and posted in 15 study site waiting rooms. Trained research assistants approached patients in 3 urban ED waiting areas and invited them to complete a short paper-based survey on the acceptability and usefulness of the poster. Results are reported as proportions.

Results: A total of 316 patients agreed to participate in this study. Approximately half of the participants were male and 60% were between the ages of 17 and 49. The majority of participants identified themselves as white (72%) and nearly half (49%) were accompanied by someone. A third (37%) of patients had read the wall poster prior to being approached to complete the survey. Most patients (62%) who had not read it prior to being approached hadn't noticed the poster or couldn't see it because of its location. Once patients reviewed the poster, the vast majority (92%) reported completely or largely understanding the information and most (84%) found it at least moderately helpful in preparing them for their ED journey. Approximately 45% of respondents agreed that they learned something new about the ED care process by reading the poster and 20% wanted additional information added to the poster; largely, wait time estimates (53% of responses).

Conclusion: Placing posters in the ED is one method for equipping patients for their ED care process; however, this study revealed the potential limited utility of this engagement method by the small number of patients who noticed the poster and read the information. Location and content (e.g., time estimates) were identified as key factors for implementation. Condition-specific guides may need to supplement general ED process guides to better prepare patients for their individual ED journey and to actively engage them in their ED care.

Keywords: care process, emergency department, patient education

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Emergency physicians' perception on engaging patients in their emergency department care

L. Krebs, MSc, C. Villa-Roel, MD, PhD, S. Couperthwaite, BSc, B. Holroyd, MBA, MD, M. Ospina, MSc, PhD, B. Rowe, MD, MSc, University of Alberta, Edmonton, AB

Introduction: Patient engagement in health decision-making is an important research area within emergency medicine. Studies suggest that patients are often not highly engaged in care decisions, and may not be aware that there are decisions in which they can be involved. This study explored emergency physicians (EPs) perceptions of their patient engagement practices.

Methods: As part of a stepped-wedge randomized controlled trial, an introductory seminar was