

the keywords “entrepreneurship”, “health education” and “health personnel”, on March 8th, 2018. Results were screened by title, abstract and full text by a team of three calibrated researchers, based upon pre-defined exclusion and inclusion criteria. The final list of papers was reviewed using an extraction tool to identify demographics, details of the paper, and its attitudes and perceptions towards entrepreneurship and innovation. **Results:** After screening, 59 papers were identified for qualitative analysis. These papers ranged from 1970–2018, mainly from the USA ($n = 36$). Most papers were commentaries/opinions ($n = 35$); 11 papers described specific innovations. Entrepreneurship was viewed positively in 45 papers, negatively in 2 papers, and mixed in 12 papers. Common specialties discussed were surgery ($n = 9$), internal medicine ($n = 3$), and not specified ($n = 44$). Emergency medicine was described in one paper. Major themes were: entrepreneurial environment ($n = 29$), funding and capital ($n = 12$), idea generation ($n = 9$), and teaching entrepreneurship ($n = 6$). Of the 11 innovation papers, the discussion was focused on educational ($n = 6$) or system ($n = 5$) innovations. These innovations related to surgery ($n = 1$), public health ($n = 1$) and palliative care ($n = 1$). None of these innovations were specific to emergency medicine. **Conclusion:** This review indicates a small number of programs focused on promoting innovation and entrepreneurship amongst trainees, but no programs specific to the emergency department. There may be benefit for educators in emergency medicine to consider how to foster a greater innovative spirit in our specialty, so our next generation of physicians can help tackle problems affecting patient care.

Keywords: entrepreneurship, health education, innovation

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Health information technology and the Ontario emergency department return visit quality program - A population level continuous quality improvement program

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Introduction: Emergency department (ED) return visits are used for quality monitoring. Health information technology (HIT) has historically supported return visit programs in the same hospital or hospital system. The Emergency Department Return Visit Quality Program (EDRVQP) is a novel population level continuous quality improvement (QI) program connecting EDs across Ontario that leverages HIT. We sought to describe the EDRVQP HIT architecture, experience of participants, enabling program factors and barriers. **Methods:** The Informatics Stack conceptual framework was used to describe the HIT architecture. A literature review of peer-reviewed background literature, and stakeholder organization reports was conducted. Purposive sampling identified key informants. Semi-structured interviews were conducted until saturation. Common themes were identified by inductive qualitative thematic analysis. **Results:** Twenty-three participants from 15 organizations were interviewed. The EDRVQP architecture description is presented across the Informatics Stack. The levels from most comprehensive to most basic are world, organization, perspectives/roles, goals/functions, workflow/behaviour/adoption, information systems, modules, data/information/knowledge/algorithms, and technology. Enabling factors were a high rate of EHR adoption, provincial legislative mandate for data collection and program membership, use of functional and data standards, local variability, phased deployment, and QI and patient safety culture. Two main barriers were increased case turnaround time and privacy legislation.

Conclusion: The Informatics Stack framework provides a robust approach to thoroughly describe the HIT architecture of this population health programs. The EDRVQP is a population health program that illustrates the pragmatic use of continuous QI methodology across a population (provincial) level.

Keywords: emergency department, information technology, public health informatics

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Describing variability in treatment of THC hyperemesis in the emergency department: a health records review

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Introduction: Cannabis Hyperemesis Syndrome (CHS) is a new and poorly understood phenomenon with a subset of patients presenting to emergency departments (ED) for symptomatic control of their refractory nausea and vomiting. Currently, there is a lack of agreement and considerable practice variability on initial treatment modalities for CHS. The objective of this study was to describe the treatment modalities for patients presenting to ED with cannabis-related sequelae.

Methods: This was a health records review of patients ≥ 18 years presenting to one of two tertiary care EDs (annual census: 150,000) with a discharge diagnosis including cannabis use with one of abdominal pain or nausea/vomiting using ICD-10 codes. Trained research personnel collected data from medical records including demographics, clinical history, results of investigations, and utilization of treatment options within the ED. Descriptive statistics are presented where appropriate. **Results:** From April 2014 to June 2016, 203 unique ED patients had a discharge diagnosis including cannabis use with abdominal pain or nausea/vomiting. Sixty-nine (33.4%) received any treatment during their visit with 28 (40.6%) receiving IV fluids, of which 24 (85.7%) received normal saline. Anti-emetics were used in 21 (30.4%) patients with ondansetron being the first-line agent in 11 (52.4%) patients followed by dimenhydrinate in 6 (28.6%) and haloperidol in 2 (9.5%) cases. Six patients required two doses of anti-emetics, favouring ondansetron in 3 cases followed by haloperidol, dimenhydrinate, and metoclopramide each used once. Thirteen (19%) patients required analgesia, with the first-line preference being non-opioid medications in 11 versus opioids in 2 cases. Seven patients required multiple modes of analgesia, favouring opioid medications in 4 patients. Twenty-eight (40.6%) patients required anxiolytics with lorazepam being used primarily in 16 (57.1%) patients followed by lorazepam/haloperidol in 5 (17.9%) cases. **Conclusion:** This ED-based study demonstrates variability of practice patterns for symptomatic treatment of cannabis related ED presentations. Despite knowledge of haloperidol being useful in patients with suspected CHS, physicians opted for ondansetron as first line anti-emetics. Future research should focus on studying various treatment modalities of patients with suspected CHS in the ED to optimize symptomatic treatment.

Keywords: cannabis, nausea, pain

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Safer transitions in the care of the elderly: identification of essential information in transitional care

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Introduction: When presenting to the Emergency Department (ED), the care of elderly patients residing in Long Term Care

(LTC) can be complicated by threats to patient safety created by inefficient transitions of care. Though standardized inpatient handover tools exist, there has yet to be a universal tool adopted for transfers to the ED. In this study, we surveyed relevant stakeholders and identified what information is essential in the transitions of care for this vulnerable population. **Methods:** We performed a descriptive, cross sectional electronic survey that was distributed to physicians and nurses in ED and LTC settings, paramedics, and patient advocates in two Canadian cities. The survey was kept open for a one month period with weekly formal reminders sent. Questions were generated after performing a literature review which sought to assess the current landscape of transitional care in this population. These were either multiple choice or free text entry questions aimed at identifying what information is essential in transitional periods. **Results:** A total of 191 health care providers (HCP) and 22 patient advocates (PA) responded to the survey. Within the HCPs, 38% were paramedics, 38% worked in the ED, and 24% were in LTC. In this group, only 41% of respondents were aware of existing handover protocols. Of the proposed informational items in transitional care, 100% of the respondents within both groups indicated that items including reason for transfer and advanced care directives were essential. Other areas identified as necessary were past medical history and baseline functional status. Furthermore, the majority of PAs identified that items such as primary language, bowel and bladder incontinence and spiritual beliefs should be included. **Conclusion:** This survey demonstrated that there is a need for an improved handover culture to be established when caring for LTC patients in the ED. Education needs to be provided surrounding existing protocols to ensure that health care providers are aware of their existence. Furthermore, we identified what information is essential to transitional care of these patients according to HCPs and PAs. These findings will be used to generate a simple, one page handover form. The next iteration of this project will pilot this handover form in an attempt to create safer transitions to the ED in this at-risk population.

Keywords: geriatrics, patient safety, quality improvement

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Timely initial assessment by a physician (IAP) improves community emergency department wait times

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Introduction: Prior Canadian Emergency Department (ED) studies have demonstrated variable benefits of initial assessment physician (IAP) to rapidly assess and initiate care of ED patients after triage. These studies have been conducted primarily in academic teaching and large urban hospitals. It is not clear if such an IAP role could be beneficial in a small community hospital. Our pilot study hypothesized that instituting a supported IAP role can reduce physician initial assessment (PIA) time, total ED length of stay (LOS), and left-without-being-seen (LWBS) rates. **Methods:** This was a pre and post interrupted time series observational study at a community ED in Niagara Health Systems (Welland Ontario, 4 MD shifts, 36hrs total coverage, 30000 annual visits). In July 2017, an IAP ED shift (with separate assessment/treatment area) was re-purposed, with nursing support, to reduce initial time to MD assessment after triage. For lower acuity cases, the IAP MD generally completed full case management & disposition. Higher acuity complex cases were initiated by IAP, and transferred into the main ED care areas for

“inside” MD management. Administrative data was accessed for 6 months prior to intervention, and 4 months available post-intervention. Descriptive statistics were calculated for collected data. **Results:** A modest improvement in different administrative ED performance metrics was observed. The following changes were noted pre and post IAP intervention: PIA time reduced from 3.6hrs to 3.2hrs, total ED LOS reduced from 19.2hrs to 13.8hrs, and daily LWBS rate reduced from 4.2% to 3.7%. This pilot study demonstrated improvement trends in ED performance metrics, although there is insufficient data to show statistical significance. Aggregate data was not subgrouped based on CTAS categories. This pilot was not intended to collect patient or staff satisfaction data, adverse events, nor designed to demonstrate cost-effectiveness **Conclusion:** Introducing an IAP shift in a small community ED has shown improvement trends for various ED throughput measures pertaining to outcomes such as PIA time, total LOS and LWBS rates. Further research is required to determine statistical significance of time reductions, satisfaction (patients, staff), resource utilization impact and CTAS subgroup performance. This improvement demonstrates potential impact system-wide across Niagara region.

Keywords: administration, flow, wait times

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An environmental scan of patient emailing and texting practices at Ontario emergency departments

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Introduction: Email and text messaging holds the potential to not only contact patients after emergency department (ED) care for clinically important communications such as appointment reminders, but also to solicit feedback for quality improvement and/or participation in research. A necessary first step though is the collection of electronic contact information, but little is known about current practice in Ontario EDs. In this study, we sought to characterize current collection, consent and use of patient email and texting to communicate with ED patients at academic and community hospitals across Ontario. **Methods:** We developed a questionnaire, with a blend of multiple choice and open-ended questions, targeted at ED registration administrators. The questions focused on if and how EDs collect, store and consent for patient emails, how and what they utilize those emails for and if they text patients. The questionnaire was administered both online and by phone. Participants were recruited through snowball sampling, including facilitated dissemination of the questionnaire via an existing listserv of the Patient Registration Network of Ontario (PRNO). **Results:** Twenty-two respondents (41% response rate) completed the questionnaire. Seven of the 22 institutions were academic health centres (32%). Nine institutions (41%) collected patient email addresses in the ED and none collected or used text message technology. In all 9, registration staff were tasked with asking, consenting, collecting and storing patient details within their hospital admissions, discharge and transfer system (ADT). For sites with email address collection, respondents estimated 40-60% of ED patients shared an email address. Seven of 9 institutions had a verbal consent process, while 2 used implied consent. Only 2 institutions used email to send patients post-discharge feedback questionnaires and four used email to facilitate access to patient portals. Four institutions were looking at using text messages to direct patients at triage, sometime in the future. **Conclusion:** Engagement in optimized care and feedback requires communication which is quickly