stakeholders and completed a process map. We obtained baseline data regarding the median time to ECG in both patients with STEMI and all patients presenting with chest pain. Root cause analysis determined two main barriers: access to designated space to obtain ECGs, and the need for patients to be registered in the computer system before an ECG could be ordered. The team identified strategies to eliminate these barriers, identifying a dedicated space and undergoing multiple PDSA cycles to change the workflow to stream patients to this space before registration. **Results:** Our median times in patients with STEMI have gone from 33 minutes to 8 minutes as of June 2017. In all patients presenting with chest pain, we improved from a median of 36 to 17 minutes. As of April 2017 we are obtaining an ECG within 10 minutes in 27% of our patients, compared to 3% in 2016. Given the limitations in our data extraction process, we were not able to differentiate between patients with active chest pain versus those whose chest pain had resolved. **Conclusion:** By involving frontline staff, and having frontline champions providing real time support, we were able to make significant changes to the culture at triage. We cultivated sustainability by changing the workflow and physical space, and not relying on education only. While we have improved the times for our walk-in patients, we have not perfected the process when a patient moves immediately to a bed or presents via ambulance. Implementing small changes and incorporating feedback has allowed us to identify these new challenges early.

Keywords: quality improvement and patient safety, emergency department, electrocardiogram

MP24

Doc in the box: effectiveness of physician initial assessment at triage in the emergency department

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Introduction: Physician Initial Assessment (PIA) time at the Montfort Emergency Department (ED) in Ottawa is one of the longest in the province. PIA, Length of Stay (LOS), and Left Without Being Seen (LWBS) are all performance measures which impact hospital funding through the pay for results (P4R) system. Increased PIA times negatively impact hospital funding, patient satisfaction and may be correlated to patient safety. Our aim was to examine whether having a physician at triage during the last hour of their shift decreased PIA time, LOS, and LWBS rate, and also to overall improve patient care received in the Emergency Department. **Methods:** During the last hour of five different Emergency Department (ED) shifts (14-15h, 16-17h, 19-20h, 22-23h, 23h-00h), the physician worked with a designated registered nurse, evaluating patients in a room adjacent to triage and the waiting room. The current study evaluated the effectiveness of having a physician perform initial assessments at triage (including history, physical and ECG) and assess the impact on PIA time, LOS, and LWBS during the specific hours that a physician is at triage. This is a pre-post retrospective study. Baseline data was collected retrospectively over a period of 20 weeks prior to the intervention (between January 2017 and June 2017). Intervention data was collected over a period of 20 weeks starting in June 2017. Statistical process control (SPC) methodologies were then applied to the pre-post data of continuous variables. PIA time and LOS averages were obtained for each hour in which the physician was stationed at triage. I (XmR) charts were used for statistical analysis. Analysis was done using QI macros in Microsoft Excel. **Results:** Reductions in PIA times of 8 minutes (14-15h), 16 minutes (16-17h), 30 minutes (19-20h), 72 minutes (22-23h) and 88 minutes (23h-00h) were demonstrated across the 5 shifts throughout the trial period. No clear increase in LWBS wait times were demonstrated. Overall ED volumes increased modestly over the course of the intervention. Overall ED LOS in the department decreased about 25 minutes over this same period. There were no other PIA or LOS reduction initiatives taking place in the ED over the trial period. **Conclusion:** The goal of this study was to have patients seen quickly by an emergency physician at triage who would perform a rapid initial assessment and respond to needs for pain management, and order urgent testing or imaging. In this study, PIA times improved after the process change for every time period tested. One possible limitation was that this intervention likely had less adherence at the beginning of the trial as the staff adjusted to the new shift flow. This seems to be reflected in the data, since an improved process change is demonstrated near the end of the trial period. The next step in quality care improvement is to look at lab and imaging data to evaluate the utilization of tests with a physician at triage.

Keywords: quality improvement and patient safety, physician initial assessment time in the emergency department, emergency physician at triage

MP25

The quality improvement and patient safety curriculum for emergency medicine residents at the University of Toronto: results from the first cohort

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Introduction: The 2015 CanMEDS framework requires all residency programs to increase their focus on Quality Improvement and Patient Safety (QIPS). We created a longitudinal (4-year), modular QIPS curriculum for FRCP emergency medicine residents at the University of Toronto (UT) using multiple educational methods. The curriculum addresses three levels of QIPS training: knowledge, practical skills at the microsystem level, and practical skills at the organization level. Aim Statement: To increase the UT FRCP emergency medicine residents absolute score on the QIKAT-R (Quality Improvement Knowledge Application Tool Revised) by 10% after the completion of the QIPS curriculum. **Methods:** Physicians and other healthcare professionals with QI expertise collaboratively designed and taught the curriculum. We used the QIKAT-R as the outcome measure to evaluate QI knowledge and its applicability. The QIKAT-R is a validated measure that assesses an individuals ability to decipher a QI issue within the healthcare context, and propose a change initiative to address it. The first cohort of residents completed the QIKAT-R prior to the first session in 2014 (pre) and at the completion of the curriculum in 2017 (post). Each response was anonymized and scored by physicians with QI expertise. The QIKAT-R scores and comments from course evaluations are used to make yearly iterative curriculum changes. **Results:** The QIPS curriculum was implemented in September 2014. All nine residents in the first cohort completed the curriculum; they demonstrated an absolute increase of 19.6% (5.3/27) in the mean QIKAT-R score (13.0 +/ −3.3 pre vs. 18.3 +/− 3.8 post, $p = 0.001$). Of the pre-test responses, 26% were categorized as poor, 70% as good, and 4% as excellent, whereas of the post-test 11% of responses were categorized as poor, 37% as good, and 52% as excellent ($p < 0.001$). Two iterative curriculum changes were made at the end of each academic year since 2014: (1) The time between sessions were decreased to promote knowledge retention, and (2) different PGY3 QI practical project options were provided to suit residents individual QI interests. QIKAT-R scores and resident feedback were used to

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evaluate the impact of the curriculum changes. **Conclusion:** A collaborative, modular, longitudinal QIPS curriculum for UT FRCP emergency medicine residents that met CanMEDS requirements was created using multiple educational methods. The first resident cohort that completed the curriculum demonstrated an absolute increase in QI knowledge and its applicability (as measured by the QIKAT-R) by 19.6%. Two PDSA cycles were completed to improve the curriculum with the change ideas generated from resident feedback. Ongoing challenges include limited staff availability to teach and supervise resident QI projects. Future directions include incentivising staff participation and providing mentorship for residents with a career interest in QI beyond what is offered by the curriculum.

Keywords: quality improvement and patient safety, residency training, CanMEDS

MP26

An emergency department team-based quality improvement initiative reduces narcotic and benzodiazepine 'to-go' medication administration

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Introduction: The administration of "to-go" medications in the Kelowna General Hospital Emergency Department was identified as an issue. Frequently, multiple administrations of "to-go" medication prepacks were administered to individual patients on a frequent basis. In addition, the variability in "to-go" medication was substantial between providers. Recognizing the patient issues (addiction, dependency and diversion) and system issues (costs, risk) a team-based quality improvement initiative was instituted, utilizing a variety of quality improvement techniques. The aim was to reduce the number of "to-go" medications by half, within a year. **Methods:** The project began January 2015, and is ongoing. Multiple stakeholders were engaged within the emergency department; these included leaders of the physician, nursing and pharmacy teams, including an executive sponsor. Using change theory, and traditional Plan-Do-Study-Act (PDSA) cycles, an iterative methodology was proposed. The outcome measure proposed was number of "to-go" medications administered; secondary measures included number of opioid "to-go" and benzodiazepine "to-go"prescriptions. Balancing measures were the number of narcotic prescriptions written. Physician prescribing practice and nursing practice were reviewed at meetings and huddles. Individualized reports were provided to physicians for self-review. Data was collated at baseline then reviewed quarterly at meetings and huddles. Run charts were utilized along with raw data and individualized reports. **Results:** At baseline (January 2015), the number of "to-go" medications was 708. Over the next year, this value reduced to 459, showing a 35% reduction in "to-go". Two years later (June 2017), this had reduced to 142, resulting in an overall reduction of 80% "to-go" medications. Secondary measures are currently under analysis. Further, no increase in prescribing of narcotics was seen during this time period. **Conclusion:** The administration of "to-go" medications from the emergency department has significant individual and societal impact. Frequently, these medications are diverted; meaning, sold for profit on the black market. Further, opioid prescribing is under increased scrutiny as the linkage between opioid prescriptions and addiction / dependency becomes more evident. This quality improvement initiative was successful for a number of reasons. First, we had strong engagement from the full emergency department clinical teams. The issue was first identified collaboratively, and teamwork and participation was strong from the outset. Second, we used individual and aggregate data to provide feedback on a regular basis. Third, we had strong support from our executive sponsor(s) who were able to support the efforts and champion and present the results locally, and now, throughout the Health Region.

Keywords: quality improvement and patient safety, opioids, prescribing practices

MP27

Publishing emergency department wait times in the waiting room: implementation and evaluation of a co-designed patient centered solution

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Introduction: Patients in our ED were dissatisfied with their waiting experience, which resulted in patient anxiety and complaints. In 8 months, we aimed to (1) improve patient satisfaction with the ED waiting experience from triage to physician initial assessment by a 15% improvement in patients who rate their experience very good/excellent on a Likert Scale, and (2) improve patient knowledge of ED wait time by a 50% increase in understanding on a Likert Scale. **Methods:** We co-designed a display with ED patients to notify those in the waiting room of their wait process and wait time. The intervention was selected after root cause diagnostics including: Fishbone exercise, Pareto Diagram, and Driver Diagram. The display was co-designed with ED patients and improved via PDSA cycles to establish information displayed and how to incorporate it into the waiting experience. After co-design, a low-fidelity display was piloted in the waiting room. **Results:** A family of measures were evaluated using patient/provider surveys and hospital data metrics. Outcome measures were (1) percentage of patients who rated their ED experience as very good/excellent on a Likert scale, and (2) patients who had a clear/very clear understanding of their wait time on a Likert scale. Process measures were the percentage of patients who (1) looked at the wait time display, and (2) felt they could communicate their wait time to others. Balancing measures were clerk/nurse satisfaction and self-reported interruptions of patients asking wait time. Outcomes were tracked using statistical process charts and run charts. Following display implementation, patient rating of their ED experience and patient understanding of wait time showed positive improvement. Clerks/nurses were also more satisfied with their jobs and self-reported interruptions decreased. **Conclusion:** A low-fidelity wait time display co-designed with patients improved patient satisfaction and understanding of ED wait times. We plan to develop an automated electronic display that resembles the low-fidelity display and evaluate the impact of the intervention on the established measures. This intervention has the potential to be sustainable, feasible for other EDs, and require minimal upkeep costs.

Keywords: quality improvement and patient safety, patient-centered, patient co-design

MP28

Reducing door-to-needle times across Alberta to 36 minutes

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Introduction: The effectiveness of intravenous alteplase is highly time dependent, and very short door-to-needle times (DNT) of 30 minutes or

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