

software and EPIC platform. Analysis of these cases will allow us to define when errors occur, what is the type and severity of the error, how long it took to relay the discrepancy to a treating physician, and what was the subsequent management impact. **Evaluation/Results:** We discovered 712 cases with radiological reading discrepancies, 168 major, 527 minor, and 17 incidentals. Interestingly, a significant portion of major (severely affecting care/life-threatening) discrepancies were reported from radiology residents, especially on CT images, although emergency physicians had the most discrepancies (mostly minor). Radiology residents were seen to have more discrepant reports during after-hour services while emergency physicians did not show any specific pattern of discrepant reporting. The average time to report a major discrepancy to a treating physician is 8.8 hours, where the maximum time taken was 104 hours and the minimum was 0.2 hours. 56% of reports with major discrepancies made no mention of who was notified. **Discussion/Impact:** By identifying weak points in radiological reporting, our results will allow us to provide suggestions at an administration and teaching level to minimize discrepancies. It is critical to create a workflow where mistakes are mitigated, and communication is efficient and standardized to prevent patient harm from delayed or incorrect diagnosis.

Keywords: emergency department, quality improvement and patient safety, radiology discrepancy

P041

Point-of-care ultrasound utilization and monetary outcomes (POCUMON) study

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Introduction: Point-of-care ultrasound (POCUS) is an integral tool in the modern emergency physician's toolkit. Evidence suggests many imaging and lab investigations are ordered without true medical indications; it is unknown how POCUS utilization impacts health care costs at a patient level. The purpose of this study was to assess whether POCUS use in the emergency department (ED) was associated with cost savings via decreased laboratory and radiographic testing. **Methods:** POCUMON is a single-center, prospective pilot study. The participants were a convenience sample of ED staff physicians and PGY-5 Emergency Medicine (EM) residents working in the ED from July-October 2019. Physicians who used POCUS as part of their assessment had the cost of their patient investigation plans compared with those proposed by a control group of ED physicians simultaneously on-shift. The control group was blinded to the POCUS findings but had access to the patient and medical record. The lab investigations and imaging studies ordered by both groups were recorded with respective costs. Data were analyzed using a paired T-test, with sub-group analyses. Ethics approval was obtained from the Queen's University HSREB (No.6026732). **Results:** 50 patient assessments using POCUS were captured in the study period. 76% of patient assessments were performed by EM staff physicians; 94% of control assessments were provided by EM staff physicians. Patient chief complaints included abdominal pain (7), chest pain/dyspnea (10), flank pain (3), pregnancy concerns (4), trauma (7), extremity complaints (4), back pain (3), and other (12). The POCUS group had a trend for lower number of laboratory tests (4.7 ± 0.44 vs 5.22 ± 0.39 ; $p = 0.28$) and imaging studies (0.94 ± 0.14 vs 1.1 ± 0.11 ; $p = 0.33$). Overall health care costs were similar in both groups, with a

trend to cost savings in the POCUS group ($\$142.00 \pm 15.44$ vs $\$174.60 \pm 17.00$; $p = 0.12$). Subgrouping identified significant cost savings in the POCUS group for patients with a chief complaint of flank pain ($\$43.64$ vs $\$248.82$, $p = 0.01$). **Conclusion:** POCUS use was not associated with significant health care cost savings. ED POCUS usage did see a trend towards decreased laboratory and imaging investigations. Patients presenting with flank pain had significantly lower expenditures associated with their visit when POCUS was incorporated into their assessment. Large scale prospective studies are needed to investigate if POCUS is associated with cost-savings in ED patients.

Keywords: cost analysis, point-of-care ultrasound

P042

Workplace-based assessment in emergency medicine: how do physicians use entrustment anchors?

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Introduction: Competency based medical education (CBME) has triggered widespread utilization of workplace-based assessment (WBA) tools in postgraduate training programs. These WBAs predominately use rating scales with entrustment anchors, such as the Ottawa Surgical Competency Operating Room Evaluation (O-SCORE). However, little is known about the factors that influence a supervising physician's decision to assign a particular rating on scales using entrustment anchors. This study aimed to identify the factors that influence supervisors' ratings of trainees using WBA tools with entrustment anchors at the time of assessment and to explore the experiences with and challenges of using entrustment anchors in the emergency department (ED). **Methods:** A convenience sample of full-time emergency medicine (EM) faculty were recruited from two sites within a single academic Canadian EM hospital system. Fifty semi-structured interviews were conducted with EM physicians within two hours of completing a WBA for an EM trainee. Interviews were audio-recorded, transcribed verbatim, and independently analyzed by two members of the research team. Themes were stratified by trainee level, rating and task. **Results:** Interviews involved 73% (27/37) of all EM staff and captured assessments completed on 83% (37/50) of EM trainees. The mean WBA rating of studied samples was 4.34 ± 0.77 (2 to 5), which was similar to the mean rating of all WBAs completed during the study period. Overall, six major factors were identified that influenced staff WBA ratings: amount of guidance required, perceived competence through discussion and questioning, trainee experience, clinical context, past experience working with the trainee, and perceived confidence. The majority of staff denied struggling to assign ratings. However, when they did struggle, it involved the interpretation of WBA anchors and their application to the clinical context in the ED. **Conclusion:** Several factors appear to be taken into account by clinical supervisors when they make decisions regarding the particular rating that they will assign a trainee on a WBA that uses entrustment anchors. Not all of these factors are specific to that particular clinical encounter. The results from this study further our understanding on the use of entrustment anchors within the ED and may facilitate faculty development regarding WBA completion as we move forward in CBME.

Keywords: assessment, education, entrustment

P044

Outcomes of direct observation of trauma resuscitation

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Introduction: Trauma resuscitations are sporadic high acuity situations that can be difficult to assess for areas of quality improvement. We aim to analyse the type of observation that occurs during trauma resuscitations and outcomes that develop as a result. **Methods:** Medline was searched from 1946 to May 2019 for studies involving direct observation of trauma resuscitation. English studies of both adult and pediatric populations from 2000 onwards were included for study. They were compared for type of observation (in-person vs video) as well as primary outcomes of their observation and any quality improvement as a result. **Results:** A total of 413 publications were identified with 10 meeting eligibility for inclusion. All 10 studies underwent video review with no in-person review being performed. The most common primary outcome was analysis of a critical procedure (6 studies), with tracheal intubation being studied in 4 studies and thoracotomy and vascular access each being studied once. The remaining studies measured communication styles and team effectiveness. Overall 5 of the 10 studies resulted in new policies being put in place for trauma resuscitations, including; use of interosseous lines as first lines in trauma patients in extremis, tracheal intubation check list, and continuing with medical student participation in cardiopulmonary resuscitation. **Conclusion:** This study highlights some of the common focuses of trauma resuscitation observation; critical procedures, team dynamics and communication. A majority of studies focused on critical procedures during resuscitations and quality improvement in the form of checklists to improve them. Remaining studies focused on equally important aspects of team functioning and communication which can be more difficult to objectively measure and derive quality improvement measures for. These studies led an emphasis on use of a horizontal assessment style and closed loop communication in all their trauma resuscitation.

Keywords: observation, resuscitation, trauma

P045

Doing our work better, together: a relationship-based approach to defining the quality improvement agenda in trauma care

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Background: Trauma care represents a complex patient journey, requiring multi-disciplinary coordinated care. Team members are human, and as such, how they feel about their colleagues and their work affects performance. The challenge for health service leaders is enabling culture that supports high levels of collaboration, cooperation and coordination across diverse groups. **Aim Statement:** We aimed to define and set the agenda for improvement of the relational aspects of trauma care at a large tertiary care hospital. **Measures & Design:** We conducted a mixed-methods collaborative ethnography using the Relational Coordination survey – an established tool to analyze the relational dimensions of multidisciplinary teamwork – participant observation, interviews, and narrative surveys. Findings were presented to clinicians in working groups for further interpretation and to facilitate co-creation of targeted interventions designed to improve team relationships and performance. **Evaluation/Results:** We engaged a complex multidisciplinary network of ~500 care

providers dispersed across seven core interdependent clinical disciplines. Initial findings highlighted the importance of relationships in trauma care and opportunities to improve. Narrative survey and ethnographic findings further highlighted the centrality of a translational simulation program in contributing positively to team culture and relational ties. A range of 16 interventions – focusing on structural, process and relational dimensions – were co-created with participants and are now being implemented and evaluated by various trauma care providers. **Discussion/Impact:** Through engagement of clinicians spanning organizational boundaries, relational aspects of care can be measured and directly targeted in a collaborative quality improvement process. We encourage health care leaders to consider relationship-based quality improvement strategies, including translational simulation and relational coordination processes, in their efforts to improve care for patients with complex, interdependent journeys. **Keywords:** ethnography, quality improvement and patient safety, trauma

P046

Physicians experience with the Epic electronic health record system: findings from an academic emergency department implementation

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Introduction: In June 2019, The Ottawa Hospital launched the Epic EHR system, which transitioned all departments from a primarily paper-based system to an exclusively electronic system using a one-day “big bang” approach. All Emergency Physicians (EP) received online module training, personalization sessions, and at-the-elbow support during the transition. We sought to evaluate EP satisfaction with the implementation process and the system’s impact on clinical practice in a tertiary care academic emergency medicine setting. **Methods:** Email surveys were distributed during the pre-implementation and go-live phases. Questions were developed by the research team and piloted for face validity and clarity. Surveys were sent to staff EPs, residents and fellows. Likert scales were used to evaluate agreement with statements and the modified Maslach Burnout Inventory was used to assess burnout. Pre-post groups were compared using chi-squared tests to assess for significant differences. Future surveys will be distributed in 2020 for continued implementation evaluation. **Results:** Response rates were 49% (78/160) in the pre and 48% (76/160) in the post period. The majority of respondents were staff (66% pre; 75% post) working 8-15 shifts/month. Prior to launch, 52% of EPs felt the pre-training modules provided sufficient preparation, however only 32% felt this way after go-live ($p = 0.02$). Providers did not feel there were enough personalization (21% pre vs. 24% post, $p = 0.66$) or hands-on sessions offered (51% pre vs. 39% post, $p = 0.15$) and this opinion did not change after go-live. Before Epic, EPs were most concerned with productivity/efficiency, documentation time, and lack of support/training. Although documentation was reported to be easier after go-live by 69% of EPs, reviewing documents, using standardized workups/protocols, patient monitoring/follow-up, efficiency and billing were reported by >50% of EPs to be more difficult. Overall, there was a 22% increase in feeling confident to use Epic (28% pre vs. 50% post, $p < 0.01$); however, only 38% of providers were satisfied with the system. Notably, 82% of EPs reported experiencing moderate or high burnout in the post implementation period. **Conclusion:** Despite receiving standard