

and dynamic process that is influenced by their perceived roles as a doctor, coach, and assessor. Understanding the way attendings view and juggle their roles may provide insight into potentially new approaches to assessment and feedback. Results and implications will be discussed.

**Keywords:** medical education, qualitative, emergency department

#### P094

##### **A computerized provider order entry strategy to improve the quality of clinical information on neuroimaging requisitions from the emergency department: an interim analysis**

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**Introduction:** Clinical context is critical for accurate radiologic interpretation of neuroimaging investigations. The aim of this study was to determine the impact of a change in the Emergency Department (ED) computerized provider order entry (CPOE) interface on the quality of clinical information conveyed in ED neuroimaging requisitions for suspected stroke patients. **Methods:** Four local EDs utilizing a common CPOE ED Stroke order set were studied before and after the introduction of a mandatory blank free text field requiring clinical information for the radiologist before a computed tomography angiography (CTA) request could be submitted. Prior to this modification, the indication (acute stroke) was pre-filled in the CTA request for convenience with the option of providing additional information at the discretion of the ordering physician. ED physicians were informed of the change as well as the rationale for its implementation. A retrospective pre (90 days) post (30 days) analysis was conducted across four local EDs to evaluate the impact of the CPOE user interface change on the quality of clinical information provided on neuroimaging orders. Patients aged 18 with CTA head and/or neck orders submitted from the order set were included. Patients were excluded if the CTA order was submitted outside of the ED Stroke order set, if order entry was by non-physician personnel, or if the order was modified by the diagnostic imaging department after ED submission. Clinical information from CTA orders were scored as complete, partial, or absent/uninformative based on a standardized rubric of critical elements, including: description of neurological deficit(s), lateralization, and timing of symptom onset or duration. Results were analyzed using chi square analysis. **Results:** Pre-implementation data from Oct 1, 2015 Jan. 1, 2016 (N=652) was compared to post-implementation data from Nov. 1 30, 2016 (N=227). The proportion of complete, partial, and absent/uninformative clinical histories were: 45.3%, 31.4%, and 23.3% in the pre-implementation period and 62.6%, 37.4%, and 0% in the post-implementation period respectively. There was a 38.2% relative increase in complete clinical histories, a 19.1% relative increase in partial clinical histories, and a 100% reduction in absent/uninformative clinical histories ( $p < 0.001$ ). **Conclusion:** The introduction of a mandatory free text field significantly increased the overall quality of clinical information provided on ED neuroimaging orders. This CPOE strategy has the potential to improve diagnostic accuracy and reduce unnecessary delays to imaging interpretation caused by lack of clinical information.

**Keywords:** quality improvement and patient safety, computerized provider order entry, diagnostic imaging

#### P095

##### **Do resident as teacher programs increase emergency medicine residents comfort level with teaching junior learners?**

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**Introduction:** At academic hospitals, it is a residents responsibility to teach junior learners. Residents endorse that there is limited education on how to effectively teach junior learners, and suggest a more formal curriculum on how to teach would be beneficial. Emergency Medicine (EM) residencies in North America may have a resident as teacher (RAT) curriculum, however, no Canadian EM study has characterized the impact of a RAT curriculum on residents. Our educational concept was to implement a formalized RAT workshop for residents in an EM residency. We assessed residents attitudes and comfort levels towards teaching in response to the curriculum. **Methods:** A formal RAT curriculum, provided at a single center in a 6-hour session, was provided for both Royal College and College of Family Physician EM residents. Residents completed a survey evaluating attitudes and behaviours regarding their ability to teach and give feedback as part of their roles as teachers, consistent with Kirkpatrick's second level of program evaluation. The surveys were administered pre-workshop, immediately post-workshop, and at 3 and 6 months following the RAT workshop. **Results:** Residents were surveyed in terms of their attitudes towards teaching on a 5-point likert scale. Our educational concept was delivered through a 6-hour workshop with emphasis on practical teaching skills that residents could incorporate into their practice. Lecture topics included orientation of the learner, giving effective feedback, teaching within a short time frame, as well as an introduction to theory of learning. Lectures were geared to be interactive, and included breakout sessions and group discussions. 21 residents participated in the workshop. Of 18 pre-survey respondents, 89.8% (n=16) had no previous formal training in how to teach, yet 72.21% (n=13) 'sometimes' or 'often' have a learner on shift with them. There were 15 post survey respondents. 53.33% (n=8) respondents somewhat agreed or agreed they were more likely to teach in response to the workshop, and 56.25% (n=8) responded that they somewhat agreed or agreed they were more comfortable with teaching while in the Emergency Department in an immediate post workshop survey. **Conclusion:** After a formal RAT curriculum, residents reported that they had increased comfort and were more likely to teach junior learners. Although small and single-centered, our study will help provide a basis for larger RAT studies, evaluating the effect on both residents and junior learners.

**Keywords:** innovations in emergency medicine education, resident as teacher, medical education

#### P096

##### **Real-time 72 hour readmission alert**

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**Introduction:** Hospital admission within 72 hours of emergency discharge is a widely accepted measure of emergency department quality of care. Patients returning for unplanned admission may reveal opportunities for improved emergency or followup care. Calgary emergency physicians, however, are rarely notified of these readmissions. Aggregate site measures provide a high level view of readmissions for managers, but don't allow for timely, individual reflection on practice and learning opportunities. These aggregations may also not correctly account for variation in planned readmissions and other workflow nuances. There was a process in place at one facility to compile and communicate readmission details to each physician, but it was manual, provided limited visit detail, and was done weeks or months following discharge. **Methods:** A new, realtime 72 hour readmission notification recently implemented within the Calgary Zone provides direct and automated email alerts to all emergency physicians and residents

involved in the care of a patient that has been readmitted. This alert is sent within hours of a readmission occurring and contains meaningful visit detail (discharge diagnosis, readmit diagnosis, patient name, etc) to help support practice reflection. An average of 15 alerts per day are generated and have been sent since implementation in April 2017. Although an old technology, the use of email is a central component of the solution because it allows physicians to receive notifications at home and outside the hospital network where they routinely perform administrative tasks. A secondary notification is sent to personal email accounts (Gmail, Hotmail, etc) to indicate an unplanned admission has occurred, but without visit detail or identifiable information. It also allowed implementation with no new hardware or software cost. **Results:** A simple thumbs up/down rating system is used to adjust the sensitivity of the alert over time. More than 66% of those providing feedback have indicated the alert is helpful for practice reflection (i.e., thumbs up). And of those that indicated it was not helpful, comments were often entered indicating satisfaction with the alert generally, or suggestions for improvement. For example, consulted admitting physicians are often responsible for discharge decisions and should be added as recipients of the alert. **Conclusion:** Many physicians have indicated appreciation in knowing about return patients, and that they will reflect on their care, further review the chart, or contact the admitting physician for further discussion. Most are accepting of some 'expected' or 'false positive' alerts that aren't helpful for practice reflection. Further tuning and expansion of the alert to specialist and consult services is needed to ensure all physicians involved in a discharge decision are adequately notified.

**Keywords:** quality improvement and patient safety, readmission, analytics

#### P097

##### **Making emergency room crash carts useful**

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**Introduction:** Human factors are a neglected when it comes to crash cart design and function. Using observational assessments and in-house surveys, the process improvement team found that staff use of the crash carts in the University of Alberta ED had significant redundancy, inefficiency and often leading to confusion during use. The process improvement team assessed the layout of the adult crash cart and redesigned the cart format based on observational problems/inefficiencies staff had during resuscitations. It was hoped that staff found the new design more efficient and effective during resuscitations when compared to the old cart. **Methods:** To effect change, the Rapid result change theory method was utilized to implement the new crash cart prototype. The model was used to evoke excitement and staff participation in front line process improvement. With input from senior staff, the cart was redesigned and placed in resus area where it stood the greatest chance of being used frequently. Once a prototype crash cart had gone live, surveys, based on a 7 point Likert scale compared the old and new cart systems. The resus area housed both old and new carts to facilitate the comparison. The survey assessed 6 domains; visibility of the medications, locating medications, overall organization, time savings, mixing medications and comfort level of using each cart. **Results:** After the trial, the surveys were collected and analyzed using T-test; the results were significant. There was an overwhelming positive result within all domains when comparing the two carts. There was mean difference ranging from 1.7 to 3.5 comparing when comparing the two carts to each domain. **Conclusion:** The results were so positive; all seven carts were changed to the same format. The overall impact of the new cart design saved time in both application and turnaround time in restocking. **Keywords:** crash cart, resuscitation, redesign

#### P098

##### **Solid organ donation from the emergency department - a systematic review**

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**Introduction:** There is a significant gap between the number of organ donors and people awaiting an organ transplant; therefore it is essential that all potential donors are identified. Given the nature of Emergency Medicine it is a potential source of organ donors. The purpose of this study is to determine what percent of successful donors come from the Emergency Department (ED) and whether there are any missed potential donors. **Methods:** Electronic searches of EMBASE, MEDLINE, and CINAHL were performed July 7, 2017 using PRISMA guidelines. Primary literature in human adults were included if they described identification of patients in the ED who went on to become successful solid organ donors, or described missed potential donors in the ED. Data on the total population of actual or missed donors was required to allow calculation of a percentage. Studies describing non-solid organ donation, consent, ethics, survey of attitudes, teaching curricula, procurement techniques, donation outside the ED, and recipient factors were excluded. 2 authors independently screened articles for inclusion and discrepancies were resolved through consensus. Quality was assessed using STROBE for observational studies. Heterogeneity of patient populations precluded pooling of the data to conduct a meta-analysis. **Results:** 1058 articles were identified, 17 duplicates were removed, 800 articles were excluded based on title and abstract, and 217 full text articles were excluded, yielding 24 articles for the systematic review. For neurologic determination of death (NDD), ED patients comprised 44% of successful donors. ED death reviews revealed 84% of patients dying in the ED are missed as potential donors and hospital-wide death reviews revealed 80.9% of missed donors die in the ED. For donation after cardiac death (DCD), 20% of successful donors came from the ED and studies investigating potential donors suggest 36% of patients dying in the ED could be potential DCD donors. The most common population of successful DCD organ donors was in traumatic cardiopulmonary arrest (TCPA), with 8.9% of TCPA patients presenting to the ED becoming successful donors. **Conclusion:** Patients dying in the Emergency Department are a significant source of both successful organ donors and missed potential donors. Emergency physicians should be familiar with their local organ donation protocol to ensure potential organ donors are not missed.

**Keywords:** organ donation, systematic review

#### P099

##### **Evaluating the potential impact of an ECPR program at The Ottawa Hospital: a retrospective health records review**

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**Introduction:** Extracorporeal Life Support in the context of cardiac arrest (ECPR) is an emerging resuscitative therapy which has shown promising results for patients who may not otherwise survive. As a resource-intensive intervention, ECPR requires carefully selected patients to maximize its potential benefits and mitigate undue harm. This retrospective health records review sought to identify the characteristics of cardiac arrest patients presenting to two academic tertiary care Emergency Departments (EDs) in order to assess the feasibility and impact of an ECPR program. **Methods:** We reviewed charts for all patients aged 18-75 years old presenting to two Academic Teaching