

the feedback impacted feedback interpretation; feedback was parsed by residents to determine the rationale of the assessor and whether to incorporate feedback into learning process. **Conclusion:** How residents use feedback to further their learning is variable. This study identifies that styles of feedback, emotional response and relationship with the provider are all contributors to the learning that occurs after a feedback encounter. It also identifies that residents reflect on feedback differently and make decisions about how to incorporate feedback into their learning and practice. The individuality of these responses to feedback are important for trainee self-reflection in furthering their learning as well as important in faculty development as they develop skills in assessment and feedback. It is also important for training programs that facilitate the trainee supervisor interactions.

Keywords: assessment, feedback, learning

P100

A needs assessment to guide the development of multidisciplinary simulation-based modules relevant to emergency department nurses in Newfoundland and Labrador

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Introduction: Efficient multidisciplinary team dynamics are crucial to the provision of optimal ED care. Physicians and nurses must use a collaborative approach to meet patient needs in this busy setting. This is especially important for high-acuity low-occurrence (HALO) procedures and clinical encounters. Simulation provides a safe environment where learning is enhanced through deliberate practice. Multidisciplinary participation in simulation-based education may augment team cohesiveness and performance. **Methods:** A web-based needs assessment survey was distributed to ED nurses, collecting information on demographics, opinions about simulation-based instruction and perceptions on the value of the proposed collaborative educational approach of the project. Experience and comfort with nursing roles in specific procedures (TV pacer, surgical airway, chest tube, central line, sedation) and clinical encounters (STEMI, CVA, sepsis, anaphylaxis, GI bleed) seen in the ED were also assessed. There were a number of suggestions for topics in addition to those listed. Responses will guide the collaborative development of simulation modules with nursing colleagues on desired topics. **Results:** 58/97 potential nurse participants from 2 urban ED's responded to the survey over an 8-week period, giving a response rate of 58.8%. 76% of respondents had less than 10 years of ED nursing experience, and 34.48% less than 5 years. Responses indicate limited familiarity with simulation-based education (SBE) on ED scenarios with 33.93% being not familiar; 55.36% somewhat familiar. Most prior simulation experience was with role-playing (82%) or low-fidelity setups (42%). Perceived benefit of SBE sessions was substantial (43.86%-very significant; 45.61%- significant). Most respondents had limited past exposure (22.81%- none; 64.91%- 1-5 sims). Similarly, there was little ongoing participation in SBE events with none in 43.64% and 40% just annually. For the 5 clinical scenarios, average responses were: Comfort with assisting 87.45%; Interest in further training 91.43%; Willingness to participate 94.13%. For the 5 procedures, averages were 36.35% (21.36% excluding sedation), 91.27%, 89.09%, respectively. **Conclusion:** Results indicate a low level of familiarity, experience and ongoing exposure with SBE relating to ED training and practice. Participants recognize the potential benefits of using simulation in a multidisciplinary educational setting and indicate a willingness to participate in collaborative teaching sessions.

Keywords: Education, Multidisciplinary, Simulation

P101

The development of entrustable professional activity reference cards to support the implementation of Competence by Design in emergency medicine

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Innovation Concept: Competence by Design (CBD) was implemented nationally for Emergency Medicine (EM) residents beginning training in 2018. One challenge is the need to introduce residents to Entrustable Professional Activities (EPAs) that are assessed across numerous clinical rotations. The Royal College's resources detail these requirements, but do not map them to specific rotations or present them in a succinct format. This is problematic as trainees are less likely to succeed when expectations are unclear. We identified a need to create practical resources that residents can use at the bedside. **Methods:** We followed an intervention mapping framework to design two practical, user-friendly, low-cost, aesthetically pleasing resources that could be used by residents and observers at the bedside to facilitate competency-based assessment. **Curriculum, Tool or Material:** First, we designed a set of rotation- and stage-specific EPA reference cards for the use of residents and observers at the bedside. These cards list EPAs and clinical presentations likely to be encountered during various stages of training and on certain rotations. Second, we developed a curriculum board to organize the EPA reference cards by stage based upon our program's curriculum map. The curriculum board allows residents to view the program's curriculum map and the EPAs associated with each clinical rotation at a glance. It also contains hooks to hang and store extra cards in an organized manner. **Conclusion:** We believe that these practical and inexpensive tools facilitated our residency program's transition to competency-based EPA assessments. Anecdotally, the residents are using the cards and completing the suggested rotation-specific EPAs. We hope that the reference cards and curriculum board will be successfully incorporated into other residency programs to facilitate the introduction of their EPA-based CBD assessment system.

Keywords: Competence by Design, innovations in EM education, resource development

P102

Perspectives surrounding paediatric procedural sedation using intranasal ketamine administration: a qualitative study of emergency nurses

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Introduction: Intranasal ketamine (INK) has an emerging role for procedural sedation (PSA) in children in the emergency department (ED). While INK is less invasive and requires fewer personnel than IV ketamine, widespread adoption in the paediatric ED would require strong nursing acceptance. To inform INK implementation strategies, we explored nursing perspectives surrounding INK, including perceived barriers to its adoption. **Methods:** Nurses in the paediatric ED of London Health Sciences Centre, London, Ontario were recruited by email. Two, one-hour, in-person focus groups were conducted on January 26 and February 2, 2018 using a semi-structured interview format. Transcription was performed by a professional medical transcription service and analyzed using an inductive qualitative approach involving code words corresponding to recurring topics.

Thematic analysis was used to group similar codes into themes. The analytic process was managed using the NVivo 11 software package. **Results:** Results: Eight nurses participated. All nurses were female and had a mean of 8.9 (range: 2.5 - 26) years of pediatric emergency nursing experience. Seven nurses had experience monitoring and administering INK to children for PSA. Five themes emerged: 1) attributes of INK, 2) INK effects on patients and families, 3) INK effects on health care providers, 4) INK effects on the ED environment, and 5) uncertainty regarding INK's effectiveness, predictability, and fit into institutional sedation protocols. Subthemes included 1) perceptions that INK produced a relatively shallower, slower-onset, and/or less titratable sedation, 2) the importance of patient cooperation (i.e. INK may be preferred by providers for older patients undergoing relatively painful or long procedures), 3) belief that INK was an effective anxiolytic and sedative with the potential to improve nursing resource utilization, and 4) belief that physician resistance to change and lack of personal familiarity were barriers to adoption. **Conclusion:** Conclusions: We identified clinical advantages to using INK in children, the importance of selecting appropriate patients, and barriers to widespread INK adoption. Importantly, our findings highlighted uncertainty about INK's effectiveness and incorporation into sedation protocols. Our findings will inform future knowledge translation strategies when implementing INK in the clinical setting. **Keywords:** children, intranasal, ketamine

P103

Factors associated with non-optimal resource utilization of air ambulance for interfacility transfer of injured patients

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Introduction: Timely access to definitive care has been associated with improved outcomes for injured patients. Air ambulance services have become an integral part of Canadian trauma systems to help provide earlier access to a lead trauma centre (LTC). Multiple factors can lead to non-optimal resource utilization resulting in potential transport delays. The goal of this study is to identify patient, institutional and paramedic risk factors for non-optimal resource utilization for interfacility transfers of injured adult patients transported by air ambulance to a LTC. **Methods:** Ornge is a paramedic-staffed organization that is the sole provider of air ambulance services from a non-trauma centre to a LTC for the province of Ontario, Canada. This is a retrospective cohort study of all Ornge adult emergent interfacility transports over a 5-year period. Data was collected on patient demographics and clinical status, sending facilities, transport details and paramedic qualifications. Optimal resource utilization was determined based on distance and historical times. A logistic regression model was used to explore patient, provider and institutional risk factors for non-optimal resource use. **Results:** Between January 1, 2013 and December 31, 2017 a total of 1777 injured patients underwent interfacility transport with Ornge. Of these 805 were identified as having non-optimal resource utilization. Patients who had an optimal resource use were found to be older and mechanically ventilated. Risk factors increasing odds of non-optimal transport included patients transported from a nursing station (OR 1.94), transport with primary or advanced care paramedics (OR 6.57 and 1.44, respectively) and transport between both 0800-1700 and 1700-0000 (OR 1.40 and 1.54, respectively). The median delay to arrival to receiving facility if a patient had a non-optimal resource use was 40 minutes **Conclusion:** We were able to identify several factors resulting in non-optimal

resource utilization. We believe that nursing stations as a sending facility and type of paramedics crew transporting patients resulted in non-optimal resource utilization mainly due to these patients being of lower acuity and this affecting their triage. However the timing of day is more likely to be a resource availability issue and something that can be further studied and potentially improved.

Keywords: emergency medical services, prehospital, trauma

P104

Can patients suffering traumatic cardiac arrest be identified using the National Ambulatory Care Reporting System (NACRS) database?

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Introduction: Trauma is a common cause of mortality across all age groups and is projected to become the third greatest contributor to global disease burden. Recent studies have demonstrated that survival from traumatic cardiac arrest (TCA) is more favourable than once believed and further research on this population is being encouraged. Currently, it is unclear whether existing databases, such as the National Ambulatory Care Reporting system (NACRS), which includes all emergency department visits, could be used to identify TCAs for population-based studies. We aimed to determine the accuracy of NACRS administrative codes in identifying TCA patients. **Methods:** This retrospective validation study used data acquired from NACRS and our institutional Patient Care System. We identified a number of International Classification of Diseases, tenth revision (ICD-10) diagnostic, procedural and cause of injury codes that we hypothesized would be consistent with TCA. NACRS was subsequently searched for patients meeting the diagnostic code criteria (January 1 - December 31, 2015). The following inclusion criteria were: an eligible ICD-10 diagnostic code or a qualifying Canadian Classification of Health Interventions (CCI) procedure code and an eligible ICD-10 external cause of injury code. Electronic medical records for these patients were then reviewed to determine whether true TCAs had occurred. **Results:** Eighty-five patients met the inclusion criteria and one was excluded from analysis due to inaccessible health records, leaving 84 patients eligible for chart review. Overall, 55% (n = 46) of patients were found to have true TCA, 35% (n = 29) sustained a cardiac arrest of non-traumatic etiology and 11% (n = 9) were considered "unclear" (i.e. could not determine whether it was a true TCA based on the medical records). We found that true TCA patients were most accurately identified using a combination of ICD-10 CA cardiac arrest and external cause of injury codes (Positive predictive value: 70.6%, 95% CI 46.9-86.7). **Conclusion:** TCA patients were identified with moderate accuracy using the NACRS database. Further efforts to integrate specific data fields for TCA cases within existing population databases and trauma registries is necessary to facilitate future studies focused on this patient population. **Keywords:** ambulatory care, cardiac arrest, trauma

P105

Charting in the electronic medical record: Perspectives of Emergency Medicine residents

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Introduction: The literature reveals that residents spend significant amounts of time working with and charting in electronic medical