department(ED). With serious games, the mechanism of learning is thought to be via the gameplay experience. Objectives built into gameplay are aimed at teaching players about a specific concept; in this case, we hoped to teach players about interprofessional collaboration and basic mechanics that drive flow in the ED. However, before a player can be taught, he or she must be engaged and have a positive gameplay experience. From the GridlockED gameplay, we aim to explore how a players gameplay experience related to observed actions while playing the game, including participating in decision making and keeping the team organized. **Methods:** From April-August 2017, participants were invited to play 4 turns of a GridlockED game session. They were video recorded during gameplay. After playing the game, they were surveyed using the previously derived Game Experience Questionnaire (GEQ) to measure their gameplay experience. The videos were reviewed by two research team members (SH, EJ), tallying various observed game actions. We conducted Pearson correlation between players GEQ total score and their observed actions. **Results:** A total of 32 participants (13 attendings, 5 senior residents, 10 junior residents, and 4 nurses) played the game. The average total GEQ was 67.2/132 (SD = 10.7), suggesting most players had a moderately good gameplay experience. The total GEQ score correlated with component subscores within the questionnaire. Overall observed activity correlated well with each observed action subtype. However, the GEQ total score did not correlate significantly with the total observed action (Pearsons $r = 0.18, p = 0.32$). GEQ total score was found to be moderately correlated to an observation that a player participated in determining strategy during gameplay ($r = 0.36, p = 0.04$). There was a moderate negative correlation between determining strategy during gameplay and teaching about the game ($r = -0.37, p = 0.04$) or emergency medicine concepts ($r = -0.47$, $p < 0.01$). **Conclusion:** The GEQ is internally consistent, but does not have a strong relationship to observed actions, suggesting that game experience does not necessarily correlate with observable actions. This suggests that players may be intellectually stimulated or engaged without necessarily completing any observable actions during gameplay.

Keywords: education, simulation, serious games

P144

Assessment of the quality of evidence presented at the Canadian Association of Emergency Physicians annual meeting over a five-year period (2013-2017)

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Introduction: The CAEP annual meeting presents the latest evidence for clinical practice, but there has not yet been an appraisal of the abstracts presented at this conference. Therefore, we sought to evaluate the level of evidence of research presented at the annual meeting, and assess for trends over a five-year period (2013-2017). **Methods:** We conducted a scoping review that included all CAEP abstracts from 2013-2017, obtained through the Canadian Journal of Emergency Medicine. Two reviewers assessed eligibility and extracted data from abstracts individually, with conflicts resolved by a third reviewer. Qualitative research was excluded. Extracted data included type of presentation (ex. oral, poster), sample size, study design and type of study (therapeutic, prognostic, diagnostic, education, quality improvement, or systems-wide/economic analyses research). A level of evidence (LOE) was assigned using the 2011 Oxford Centre for Evidence-Based Medicine criteria. **Results:** Abstracts from 2014-2017 have been analyzed thus far, 1090 of which were eligible and 990 included. Inter-rater agreement for screening and data extraction was high (value 0.87 and 0.84 respectively). Systems-wide/economic analyses research was the predominant type of study (28.6%, 283/990), followed by therapeutic (19.9%, 197/990) and education (19.9%, 195/990). The mean LOE was 2.81 (95% CI 2.77,2.85). The highest proportion of studies were of level III evidence (77.7%, 769/990), followed by level II (9.6%, 95/990) and level I evidence (7.8%, 77/990). 72.1% (124/172) of all level I and II abstracts were presented in 2016 and 2017. A significant change in LOE between years was evident ($p < 0.0001$, chi-squared). The greatest proportion of level I and II abstracts were lightning oral (41.9%, 72/172), followed by posters (36.0%, 62/172). The best average LOE was observed for lightning oral (2.64, 95% CI 2.56, 2.72), with the poorest average LOE witnessed for moderated posters (2.90, 95% CI 2.83, 2.97). A significant difference was present in mean LOE between types of presentations ($p < 0.0001$, one-sided ANOVA). **Conclusion:** The majority of abstracts were level III evidence. The lightning oral sessions had the greatest proportion of level I and II evidence presented. Recent years of the conference have also seen the presentation of a greater number of level I and II evidence, which may suggest a shift towards generating and disseminating higher level evidence in emergency medicine.

Keywords: evidence-based medicine, level of evidence, quality of evidence

P145

The role of audit and feedback in the ED setting: are physicians able to accurately predict their own practice?

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Introduction: Prior research has shown that audit and feedback (A &F) can be an effective tool for practice change. However, questions remain about how to optimize A&F. The objectives of this project were to determine if: 1) there are differences in practice between physicians who do, and do not, consent to receive a confidential report on their practice and; 2) if there is a relationship between consenting physicians self-predicted and actual practice. **Methods:** This was a prospective, cross-sectional study embedded in a larger quality improvement (QI) initiative to align physician practice with best evidence in the emergency department (ED) care of infants with bronchiolitis. All physicians practicing in the ED of a tertiary care pediatric hospital were offered the opportunity to consent to receive an individual, confidential data report on their practice. Prior to receiving their data, consenting physicians completed a survey which asked them to predict the proportion of bronchiolitic patients for whom they ordered diagnostic tests or treatments. We used chi-squared testing to compare the proportion of consenting and non-consenting physicians whose diagnostic test (Chest X-ray (CXR), viral study) and treatment (steroid, Ventolin) ordering was above the median for all ED physicians. We used Pearsons correlation to assess the relationship between consenting physicians self -predicted and actual practice. **Results:** 56% (37/66) of physicians consented to receive a data report. The median proportion of patients with an x-ray ordered was 20%, 63% of non-consenters were above the median, compared to 36% of consenters ($X2\ (1, N = 66) = 4.91, p = 0.03$). For viral testing, 31% of patients had a test ordered, with 50% of non-consenters and 50% consenters above the median ($X2\ (1, N = 66) = 0, p = 1$); 11% of patients had steroids ordered, with 53% of non-consenters and 47% of consenters above the median ($X2\ (1, N = 66) = 0.24, p = 0.621$); and 18% of patients had Ventolin ordered, with 60% of non-consenters and 42% of consenters above the median ($X2\ (1, N = 66) = 2.2, p = 0.138$). There was a

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moderate correlation between physicians predicted and actual practice with respect to viral testing (r = 0.67), but minimal correlation for CXR (0.05), steroids (r = 0.17) or Ventolin (r = 0.33) ordering. **Conclusion:** The finding that physicians have a limited ability to accurately predict their own performance emphasizes the importance of providing physicians with feedback. However, our results suggest that the consent process may be a potential barrier to effective A &F.

Keywords: bronchiolitis, audit and feedback

P146

Organ and tissue donation from poisoned patients in the emergency department: a Canadian perspective

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Introduction: Screening for organ and tissue donation is an essential skill for emergency physicians. In 2015, 4564 individuals were on a waiting list for organ transplant and 242 died while waiting. As Canadas donation rates are less than half that of other comparable countries, it is crucial to ensure we are identifying all potential donors. Patients deceased from poisoning are a source that may not be considered for referral as often as those who die from other causes. This study aims to identify if patients dying from poisoning represent an under-referred group and determine what physician characteristics influence referral decisions. **Methods:** In this cross-sectional unidirectional survey study, physician members of the Canadian Association of Emergency Physicians were invited to participate. Participants were presented with 20 organ donation scenarios that included poisoned and non-poisoned deaths, as well as one ideal scenario for organ or tissue donation used for comparison. Participants were unaware of the objective to explore donation in the context of poisoning deaths. Following the organ donation scenarios, a range of follow-up questions and demographics were included to explore factors influencing the decision to refer or not refer for organ or tissue donation. Results were reported descriptively and associations between physician characteristics and decisions to refer were assessed using odds ratios and 95% confidence intervals. **Results:** 208/2058 (10.1%) physicians participated. 25% did not refer in scenarios involving a drug overdose (n = 71). Specific poisonings commonly triggering the decision to not refer included palliative care medications (n = 34, 18%), acetaminophen (n = 42, 22%), chemical exposure (n = 48, 27%) and organophosphates (n = 87, 48%). Factors associated with an increased likelihood to refer potential donors following overdose included previous organ and tissue donation training (OR = 2.6), having referred in the past (OR = 4.3), available donation support (OR = 3.9), greater than 10 years of service (OR = 2.1), large urban center (OR = 3.8), holding emergency medicine certification (OR = 3.6), male gender (OR = 2.2, CI), and having indicated a desire to be a donor on government identification (OR = 5.8). **Conclusion:** Scenarios involving drug overdoses were associated with under-referral for organ and tissue donation. As poisoning is not a contraindication for referral, this represents a potential source of donors. By examining characteristics that put clinicians at risk for under-referral of organ or tissue donors, becoming aware of potential biases, improving transplant knowledge bases, and implementing support and training programs for the organ and tissue donation processes, we have the opportunity to improve these rates and reduce morbidity and mortality for Canadians requiring organ or tissue donation.

Keywords: organ donation, poisoning, tissue donation

P147

Clinical characteristics and system factors of elderly treated for agitation in the emergency department: a data driven approach

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Introduction: Aligning health systems appropriately to the needs of the elderly is an urgent global priority, according to the WHO. In Canada, ED length of stay has risen 16% for elderly patients in the last year. Agitation requiring chemical restraint is a common, high-risk problem for elderly in the ED. Improving outcomes in this heterogeneous population remain difficult due to inability to effectively identify and evaluate delirium, frailty, multi-morbidity, and incompatibility with the ED system. A data-driven approach to complex health problems is a recognized emerging tool for healthcare innovation. New opportunities for targeted quality improvement in the ED will be uncovered by identifying the clinical characteristics of elderly patients with agitation, and the system process factors that influence their outcomes. **Methods:** We studied 400 patients in a case-control study at two tertiary-care EDs over five years. Patients were randomly selected if age was greater than 75 years. 200 cases of patients who received an intravenous dose of haloperidol, midazolam and/or lorazepam were selected as a surrogate data marker for having agitation. Controls were randomly matched by age and ED diagnosis. Standardized clinical, systems and process variables were collected. We conducted a univariate analysis. **Results:** Elderly given intravenous medications for agitation had increased mortality (OR 3.8 CI: 1.6-10.7, $p < 0.001$) and ED length of stay (27 vs. 15 hours, $p < 0.001$). No statistical significance was found in clinical characteristics, CTAS scores, PRISMA7 frailty scores nor sentinel or return visits. There was no statistical difference in median hospital length of stay (8 vs. 6 days, $p < 0.70$). No differences were found in median time from ED physician seeing a patient to first consultant request (73 vs. 83 mins, $p = 0.75$). The largest time intervals contributing to ED length of stay were from first consultant request to hospital request (15 vs. 12 hours, $p = 0.056$) and hospitalization delay (13 vs. 7 hours, $p = 0.45$). **Conclusion:** Identification of high-risk elderly patients for targeted intervention through a data-driven approach is feasible and informative. Traditional clinical characteristics remain unhelpful in identifying and evaluating outcomes in elderly with agitation. We have identified a process factor that is clinically relevant and pragmatic to evaluate in our ED system. Future research focused on optimizing systems process factors to improve quality of elderly care should be prioritized.

Keywords: elderly, agitation, data driven

P148

What do surgeons expect of the emergency department in the diagnosis and management of pediatric appendicitis?

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Introduction: The optimal diagnostic strategy for children presenting to the Emergency Department (ED) with suspected appendicitis (SA), the most common non-traumatic surgical emergency in children, remains unclear. This study aims to identify which investigations and management priorities are preferred by Canadian surgeons prior to consultation from the ED. **Methods:** An internet survey was extended to practicing surgeons who are members of the Canadian Association of Pediatric

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