

ED-based study. The direction of the bias was the same for both outcomes; however, the variation did not change the study results. This bias may play a role in studies with smaller sample sizes.

**Keywords:** asthma

#### P124

##### **Determining ED staff awareness and knowledge of intimate partner violence and available tools**

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**Introduction:** Domestic violence (DV) rates in smaller cities have been reported to be some of the highest in Canada. It is highly likely that emergency department staff will come across victims of intimate partner violence (IPV) in their daily practice. Elsewhere we have found low rates of IPV documentation as well as underutilization of current tools in the ED. The purpose of this study is to describe ED staff awareness and knowledge surrounding IPV, currently accepted screening questions, and available screening tools. **Methods:** To assess awareness and knowledge, a cross-sectional online survey was distributed to ED staff (LPNs, NPs, Physicians, Residents, RNs) via staff email lists three times between July and October 2016, with a response rate of 45.9% (n = 55). The primary outcomes were correct identification of appropriate IPV questions. Secondary outcomes included awareness of screening tools (HITS, WAST, PVS, AAS), whose role it is to question patients, and whether or not formal training has been received. **Results:** When asked to identify recommended questions for asking about IPV, staff were more likely to choose screening questions (75.3%; 95% CI 69.3% to 80.6%) compared to questions that are not recommended (23.8%; 95% CI 19.4% to 30.7%). However, 87.3% of respondents were not aware of current screening tools. 49.1% believed that all patients with typical injuries (ex. facial injury), should have further questioning about IPV, 20% believed that all patients with any injury, and 16.4% believed that all patients should be questioned about IPV. 89.1% also felt that it is both the physician and nurse's role to question patients about IPV. Finally, 81.8% of ED staff did not receive any formal training on domestic or intimate partner violence. **Conclusion:** The present study indicates that there may be a gap in education surrounding this high risk condition as seen by the lack of knowledge surrounding current tools, lack of consensus on who should be questioned, and lack of training. Therefore, introduction of a knowledge translation piece may be beneficial to both ED physicians and nurses.

**Keywords:** intimate partner violence, case finding, emergency department

#### P125

##### **Willingness of ED staff to implement a brief intimate partner violence case-finding tool**

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**Introduction:** Domestic violence (DV) rates in smaller cities have been reported to be some of the highest in Canada. It is highly likely that emergency department staff will come across victims of intimate partner violence (IPV) in their daily practice. However, elsewhere we have found a lack of knowledge of current tools as well as lack of training in ED staff. Furthermore, these findings may also be reflected by low rates of IPV documentation, especially in high-risk cases. The purpose of the current study is to determine if ED staff would be willing to implement a brief IPV screening tool, the Partner Violence Screen (PVS) in their

daily practice. It consists of the 3 questions: Have you ever been hit, kicked, punched or otherwise hurt by someone within the past year, and if so, by whom? Do you feel safe in your current relationship? Is there a partner from a previous relationship that is making you feel unsafe now?

**Methods:** A cross-sectional online survey was distributed to ED staff (LPNs, NPs, Physicians, Residents, RNs) via staff email lists three times between July and October 2016, with a response rate of 45.9% (n = 55). The survey included a 5-question Likert scale. The primary outcome was whether ED staff are willing to implement a new case-finding tool in their daily practice. The secondary outcome was to assess whether staff would find this tool beneficial in case-finding for IPV. **Results:** 43.6% of staff responded that they are likely to use the tool routinely, 29.1% were unsure, and 2.7% very likely. 7.27% and 3.64% stated their predicted use as unlikely and very unlikely, respectively. In addition, 43.6% of staff thought that the PVS would be beneficial in case finding for IPV, 40% were unsure, 12.7% thought very likely, 1.82% unlikely, and 1.82% very unlikely. **Conclusion:** These findings suggest that emergency department staff may be receptive to and find the introduction of the PVS beneficial in identifying cases of IPV. Future directions will include the introduction of this tool through a knowledge translation education piece in order improve the identification process for and awareness of a high-risk condition in a vulnerable population group.

**Keywords:** intimate partner violence, case finding, emergency department

#### P126

##### **Are we transfusing wisely? An analysis of transfusion practices among hemodynamically stable patients with anemia in four hospitals**

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**Introduction:** To help mitigated risks associated with red blood cell transfusions, CWC guidelines recommend practicing restrictively. Transfusion Medicine recommends using a Hgb threshold of 70 g/L, and ordering a single unit at a time (with reassessment after). The purpose of this study is to investigate Emergency Department (ED) compliance with these more restrictive thresholds among hemodynamically stable patients. **Methods:** A retrospective analysis was performed on data from all emergency visits to 4 adult urban ED sites from July 1 2014 to July 1 2016. We excluded unstable patients (CTAS1, temperature >38°C, HR >100 bpm, RR >20 rpm, systolic BP <90 mmHg, and O2 sat <85%) and certain others (patients without a Hgb level, patients who left without being seen, and orders cancelled via patient discharge). After applying exclusion factors, we examined transfusions ordered. Appropriateness was assessed using the stratified Choosing Wisely Canada Guidelines for Transfusion. As an adjunct, IV iron therapy data was also analyzed for the same period between July 1 2014 and July 1 2016, excluding patients who did not have a Hgb level. **Results:** We identified 1329 eligible patients (54% female), with a mean age of 68 and average first hemoglobin of 72 g/L. Across all groups, 16% of patients received only 1 unit of blood. 19% of transfused patients had a hemoglobin less than 60 g/L, 45% had a Hgb <70 g/L, 32% had a Hgb 70-80 g/L, 14% had a Hgb 81-90 g/L, and 8% had a Hgb >90 g/L. Over the same two-year period, 178 patients received IV iron. The average Hgb for those patients was 82 g/L. **Conclusion:** A retrospective analysis documents a significant likelihood of pRBC over-transfusion among Emergency Department physicians and an underutilization of IV iron therapy for certain hemodynamically stable and anemic patients. The development of audit and feedback

methods, and creation of a clinical pathway may help address the rate of over-transfusion.

**Keywords:** blood transfusion, Choosing Wisely, audit

#### P127

##### **Paramedics perception of working in Nova Scotia's collaborative emergency centres**

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**Introduction:** The Collaborative Emergency Centre (CEC) model of health care delivery was implemented in rural Nova Scotia in July 2011 without an identifiable, directly comparable precedent. It features interprofessional teams working under one roof with the goal of providing improved access to timely primary health care, and appropriate access to 24/7 emergency care. One important component of the CEC model is overnight staffing by a paramedic/registered nurse team consulting with an offsite physician via telephone. Our objective was to ascertain the attitudes, feelings and experiences of paramedics working within the CEC construct. **Methods:** We conducted a qualitative study, guided by the principles of grounded theory. Semi-structured telephone interviews were carried out by the principal investigator with paramedics with experience working in a CEC in the province of Nova Scotia. Interviews were recorded, transcribed and analyzed. Analysis involved an inductive and deductive grounded approach using constant comparative analysis. Data collection and analysis continued until thematic saturation was reached. **Results:** Fourteen paramedics participated in the study. The majority were male ( $n = 10$ , 71%), with a mean age of 44 years ( $STD = 8.8$ ) and mean experience as a paramedic of 14 years ( $STD = 9.7$ ). Four major themes were identified from the data: 1) leadership support, encompassing support from Emergency Health Services and Government prior to and after implementation of the model, 2) team work and collaboration, including interprofessional relationships among members of the healthcare team, 3) value to patients and the communities, and 4) professional and personal benefits of working in CECs. **Conclusion:** Paramedics have found working in CECs to be both professionally and personally rewarding. They perceive the CEC model to be of great value to the patients and communities it serves. Key lessons that might help future expansion of the model in Nova Scotia and other jurisdictions across the country include the importance of building and strengthening relationships between paramedics and nurses, and the need for greater feedback and support from leadership.

**Keywords:** collaborative emergency centres, qualitative, paramedics

#### P128

##### **The novel application of eye-tracking for the cognitive task analysis of expert physician decision-making while leading real-world traumatic resuscitations**

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**Introduction:** Resuscitation is a dynamic, complex and time-sensitive field which encompasses management of both critically-ill patients as well as large multidisciplinary teams. Expertise in this area has not been adequately defined, and to date, no research has directly examined the decision-making and cognitive processes involved. The evolving paradigm of competency-based medical education (CBME) makes better defining expertise in this field of critical importance to aid in the development of both educational and assessment methods.

The technique of cognitive task analysis (CTA) has been used in a variety of fields to explicate the cognitive underpinnings of experts. Experts, however, often have limited insight and incomplete recall of their decision-making processes. We hypothesized that the use of eye-tracking, which provides the combination of first-person video as well as an overlying gaze indicator, could be used to enhance CTA to better understand the defining characteristics of experts in resuscitation.

**Methods:** Over an 18-month period a sample of 11 traumatic resuscitations were obtained, each led by one of four pre-selected expert physicians outfitted with the Tobii Pro Eye-Tracking Glasses. After each resuscitation, the participant was debriefed using a cued-recall, think-aloud protocol while watching his or her corresponding eye-tracking video. A subsequent qualitative analysis of the resulting video and debrief transcript was performed using an ethnographic approach to establish emerging themes and behaviours of the expert physicians. **Results:** The expert participants demonstrated specific, common patterns in their cognitive processes. In particular, participants exhibited similar anticipatory and visual behaviours, dynamic communication strategies and the ability to distinguish between task-relevant and task-redundant information. All participants reported that this technique uncovered otherwise subconscious aspects of their cognition.

**Conclusion:** The novel combination of eye-tracking technology to supplement the CTA of expert resuscitators enriched our understanding of expertise in this field and yielded specific findings that can be applied to better develop and assess resuscitation skills.

**Keywords:** eye-tracking, cognitive task analysis, expertise

#### P129

##### **The Calgary Stampede: effects on emergency and urgent care department utilization during a Canadian mass gathering**

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**Introduction:** The Calgary Stampede is a two-week mass gathering occurring annually in July. Clinicians have anecdotally noted increases in emergency department (ED) and urgent care (UC) visits, especially for complaints related to substance misuse and violence. Our objectives were: 1) to determine if there is an increase in overall visits to EDs and UCs during the Stampede, and 2) to determine if there are increases in presentations related to trauma, violence, or intoxication. **Methods:** This observational study used prospectively collected administrative data from five EDs and two UCs in Calgary. For the years 2013 to 2016, daily average data during Stampede dates were compared to the data from the 21 days immediately preceding and following the event. Dates were selected to incorporate a similar proportion of weekends and weekdays in the Stampede and non-Stampede periods. The primary outcome was daily average ED and UC utilization. Secondary outcomes included time of arrival, utilization by demographic groups, complaint category at triage, or International Statistical Classification of Diseases, 10<sup>th</sup> revision (ICD-10) diagnosis. **Results:** The study period included 263 380 individual ED and UC visits (34 492 Stampede and 228 888 non-Stampede visits). Daily average ED and UC visits increased by 2.1% ( $p < 0.0001$ ) during the Stampede period. Increases in utilization were identified in specific subgroups: male, ambulance arrival, and nighttime arrival between 2000 and 0400 (all  $p < 0.05$ ). The Stampede period saw a marked increase in CTAS 1 visits (16.2%,  $p < 0.01$ ), triage complaints of lacerations (12.4%,  $p < 0.0001$ ) and blunt trauma (19.4%,  $p < 0.0001$ ), and the ICD-10 diagnosis of substance misuse (23.9%,  $p = 0.01$ ). Visits triaged to the minor treatment areas increased by 9.5% ( $p < 0.0001$ ), again most markedly at night (15.3%,  $p < 0.0001$ ).