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Understanding health equity: a pilot project to collect socio-demographic information on emergency department patients at registration

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Introduction: There is strong evidence that socio-economic factors such as income, housing and ethnicity are linked to health outcome disparities for emergency department (ED) patients. However, lack of real-time patient data has limited our ability to identify, understand and address health disparities. During a 14-week period, we assessed the feasibility and acceptability of the systematic collection of patient-level equity data in a busy tertiary care urban ED. **Methods:** We assessed feasibility by directly observing impact on registration time, percentage of patients on which data was collected, and ambulance patient data collection. We also assessed acceptability to patients, registration staff and clinicians through structured interviews of patients systematically sampled, focus group and surveys of registration staff and survey of clinicians. **Results:** Over the course of the study, equity data was collected on 2017 patients. Capture rate peaked in week 7 with 51% of eligible patients offered the equity questions and 30% answering. Average patient registration time increased from 215 seconds to 345 seconds (60%). Data collection with ambulance patients did not appear feasible. Patients (n = 30) reported being comfortable with most questions except income (47% comfortable). 93% believed it could improve health services. However, a small number of patients voiced concern that the data could result in discrimination. Registration staff required sustained support and engagement, but some continued to feel uncomfortable with offering the questionnaire to some patients.
Conclusion: Large scale collection of equity data is feasible but requires additional resources and sustained staff and patient support. Patient participation rate is likely to remain relatively low and is likely to underestimate disadvantaged groups. Data collection at multiple points within an institution may improve capture rate.
Keywords: administration, equity, health policy

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Emergency department length of stay for alcohol intoxicated patients presenting with head injury

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Introduction: Excessive consumption of alcohol is associated with harm and responsible for up to 30% of emergency department (ED) visits. ED visits and length of stay (LOS) related to alcohol intoxication have increased over the last decade. The objective of this study was to compare the ED LOS of alcohol intoxicated and non-alcohol intoxicated patients presenting to the ED with acute head injury. **Methods:** This was a nested cohort analysis of patients screened for enrollment in a randomized controlled trial assessing minor traumatic brain injury (MTBI) discharge instructions in the ED of an academic tertiary care hospital (annual census 65,000). Patients aged 18 to 64 years presenting to the ED with a Canadian Emergency Department Information System (CEDIS) chief complaint of a head injury or suspected concussion occurring within 24 hours were eligible for study inclusion. Patients were identified as acutely intoxicated by their treating clinical providers. ED LOS for patients acutely intoxicated and those not intoxicated was compared using a Mann-Whitney U test using the Hodges-Lehmann method. Proportional differences were assessed using chi-square statistics. **Results:** A total of 164 patients were included in the analysis, 46 (28.0%) intoxicated and 118 (72.0%) not intoxicated. Median (IQR) ED LOS was 2.9 (1.5, 6.6) hours for intoxicated and 1.8 (1.3, 2.9) hours for non-intoxicated patients (Δ1.1 hours; 95% CI: 0.4, 1.8). Arrival by ambulance was higher in the intoxicated (73.9%) compared to the non-intoxicated (29.7%) group (Δ44.3%; 95% CI: 27.6, 57.1). Patients were more likely to have experienced assault in the intoxicated (34.8%) compared to the non-intoxicated (6.8%) group (Δ28.0%; 95% CI: 14.5, 42.8). There no difference in the proportion of patients who arrived after daytime hours, had a brain computed tomography, received analgesia in the ED, had another traumatic injury or had a history of psychiatric illness. **Conclusion:** One third of patients screened for a randomized controlled trial for MTBI were deemed ineligible for study inclusion due to acute alcohol intoxication. Alcohol intoxication was associated with prolonged ED LOS. Future studies specifically aimed at identifying factors that impact care on this frequent ED patient population are needed.
Keywords: length of stay, alcohol intoxication, head injury

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Measuring health-related outcomes: is social desirability bias an issue we should be exploring while conducting emergency department research?

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Introduction: Social desirability bias is a systematic error in self-report measures resulting from the desire of respondents to avoid embarrassment and project a favourable image of themselves to others. This bias may decrease the accuracy of self-reported health outcomes collected in health research compromise the validity of research findings. This study compared outcomes obtained by patient self-report vs. the same outcomes after undergoing verification and external adjudication, in trial involving patients with acute asthma. **Methods:** Cross-sectional analysis of outcome data obtained in a randomized controlled trial conducted in 6 Canadian emergency departments (ED). Adult patients were allocated to receive usual care (UC), opinion leader [OL] guidance to their primary care provider (PCP), or OL guidance + nurse case-management [OL + CM] for patients (NCT01079000). Asthma relapses and PCP follow-up visits were blindly assessed through patient self-report 30 and 90 days after their ED presentation for acute asthma. Each reported event was verified **through the provincial electronic medical record, the ED Information Systems, and by calling the PCPs' offices**. Two study investigators, blinded to the study interventions, independently reviewed and adjudicated the verified outcomes. Disagreements were resolved by consensus prior to un-blinding. **Results:** Overall, 367 patients were enrolled; more were female (64%) and the median age was 28 years. Overall, patient follow-up was obtained in 85% of cases. The proportion of asthma relapses occurring within the first 90 days were lower when considering patient self-report than when considering the adjudicated outcomes (17%[39/227] vs. 19%[70/367]). The proportion of PCP follow-up visits occurring within the first 30 days were higher when considering patient self-report than when considering the adjudicated outcomes (47%[139/290] vs. 40%[146/367]). The pattern was similar, regardless of the arm of the study (UC vs. OL vs. OL + CM arms); outcome disagreement did not influence the direction of magnitude of the treatment effect. **Conclusion:** Social desirability bias could have influenced the outcomes obtained by patient self-report in this

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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

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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

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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

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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