

(ROSC) over the duration of resuscitation. **Methods:** We performed a retrospective cohort study of non-traumatic OHCA (<18 years) treated by EMS from the Toronto Regional RescuNET Epistry-Cardiac Arrest database from 2006 to 2015. We used competing risk analysis to calculate the probability of ROSC over the duration of resuscitation. We then used multivariable logistic regression to examine the role of Utstein factors and duration of resuscitation in predicting survival to hospital discharge. Candidate variables were limited to Utstein factors and duration of resuscitation due to the number of events. We used area under the receiver operating characteristic (ROC) curve (AUC) to determine the predictive ability of our logistic regression model. **Results:** A total of 658 patients met inclusion criteria. Survival to discharge was 10.2% with 70.1% of those children having a good neurologic outcome. The overall median time to ROSC was 23.9 min. (IQR 15.0,36.7). However, the median time to ROSC for survivors was significantly shorter than the time to ROSC for patients who died in hospital (15.9 (IQR 10.6 to 22.8) vs. 33.2 (IQR 22.0 to 48.6); P value <0.001). There was a decrease in the odds of survival of 14% per minute during the first 25 minutes of cardiac arrest. Older age (OR 0.9, 95% CI 0.86,0.99), and longer duration of resuscitation (OR 0.9, 95% CI 0.88,0.93) were associated with worse outcome while initial shockable rhythm (OR 5.8, 95% CI 2.0,16.5), and witnessed arrests (OR 2.4, 95% CI 1.10,5.30) were associated with improved patient outcome. The AUC for the Utstein factors was fair (0.77). Including duration of resuscitation improved the discrimination of the model to 0.85. **Conclusion:** Inclusion of duration of resuscitation improved the performance of our model compared to Utstein factors alone. However, our results suggest there are a number of other important factors for predicting patient outcome from pediatric OHCA.

Keywords: pediatric, cardiac arrest, resuscitation

MP04

Interim analysis of the impact of the Emergency Department Transformation System on ambulance offload delay

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Introduction: Emergency Department Systems Transformation (EDST) is a bundle of Toyota Production System based interventions implemented in two London, Canada tertiary care Emergency Departments (ED) between April 2014 and July 2016 to improve patient care by increasing value and reducing waste. Some of the 17 primary interventions included computerized physician order entry optimization, staff schedule realignment, physician scorecards, and a novel initial assessment process. Offload delays are associated with longer hospital length of stay and delayed admission, and may increase morbidity and mortality. Delays also result in fewer circulating ambulances in the community. CIHI sets a benchmark of 30 minutes as an acceptable offload target. It is possible that EDST may have impacted offload times. **Methods:** Middlesex-London EMS provided offload times. Data was collected from London Health Sciences Centre including daily ED visit volumes, ED occupancy, offload nursing hours, and site variation. A binomial logistic regression analysis was performed to determine the impact of interventions and confounding variables on the proportion of patients meeting CIHI benchmark. A chi-square analysis was done comparing proportion of patients meeting the benchmark in the first 3 months versus the last 3 months to identify overall impact of EDST to date. **Results:** Increased offload nursing hours had a positive impact ($p < 0.001$) on the proportion of offload times meeting the CIHI benchmark while increased ED visit volume and hospital inpatient volume had a significant negative impact ($p < 0.001$). At both ED sites,

the proportion of patients meeting the offload target ranged from 58-83% over the timeframe. There was a significant increase in the proportion of patients meeting the benchmark from the first quarter to the last quarter (69.6% vs 75.0%; 95% CI 3.45% to 7.38%, $p = 0.000$). Specific interventions had varying degrees of impact on offload times.

Conclusion: The proportion of patients meeting the benchmark offload time varied over the study timeframe but significantly increased with EDST implementation. Offload times are one of many outcomes we aim to improve with EDST and it remains an ongoing process as new interventions continue to be implemented. Once transformation is complete, future studies will focus on the impact of EDST on all ED flow metrics, and patient and provider satisfaction.

Keywords: emergency department systems transformation (EDST), ambulance, offload

MP05

Do emergency department staff use a current domestic violence documentation tool or other forms of intimate partner violence documentation in patient records?

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Introduction: Domestic violence (DV) rates in smaller cities 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. The purpose of this study is to better understand current practices for detecting IPV as we are currently uncertain whether patients are assessed for IPV and what the current documentation practices are. **Methods:** A standardized retrospective chart review, following principles outlined by Gilbert et al. 1996, was completed by two researchers to capture domestic violence documentation rates in patients presenting to the ED between January and April 2015 with injuries that may have been caused by IPV. To assess self-reported documentation/questioning practices, a cross-sectional online survey was distributed to ED staff via staff email lists three times between July and October 2016, with a response rate of 45.9% ($n = 55$). The primary outcome was DV field usage. Secondary outcomes included documentation in patient charts and current questioning habits. **Results:** Overall, we found documentation in 4.64% of all included patient charts ($n = 366$). No documentation was noted in the DV field. 52.4% patients with deliberate injuries had no documentation of assailant identity. With regards to self reported documentation practices, 16.4% of ED staff never questioned female patients about intimate partner violence, 83.6% asked when thought appropriate, and none asked routinely. None of the staff used a structured screening tool. 60% of ED staff documented their questioning but 92.7% did not use the DV-field for documentation. 58.2% of ED staff could not identify the DV field and 45.5% of respondents did not know how to interpret the DV field if positive. **Conclusion:** Our findings suggest that the current documentation tool (DV-field) is not being utilized. Furthermore, low rates of IPV documentation, and potentially questioning, in high risk patients indicates that there is need to improve current practises.

Keywords: intimate partner violence, screening, emergency department

MP06

Use of ultrasound and x-ray to predict improvement in hip osteoarthritis symptoms following intra-articular steroid injection

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