trauma. The charts of all hospitalized (n = 100) and a sample (n = 101) of non-hospitalized children were reviewed. A cTBI was found in 26 participants (3 neurosurgical interventions, 4 intubated and 26 admitted > one night). Among them, 18 were classified at high risk, 7 at moderate risk and 1 at low risk according to the clinical pathway. Using the PECARN rule alone would have classified 17 at high risk, 5 at moderate risk and 4 at low risk. Using the pathway to the entire population would yield the following risk of cTBI: High-risk: 25%; moderate risk: 1%; low risk < 0.1%. Conclusion: The Ste-Justine Head Trauma pathway effectively identifies children younger than two years at risk of cTBI following head trauma while triaging effectively children at low risk.

The pathway is more sensitive than the PECARN rule to identify children at risk of cTBI.

Keywords: head trauma, children, pathway

P052
The effect of blood alcohol on outcomes in patients with major traumatic brain injury in Nova Scotia
R. Green, MD, N. Kureshi, MBBS, MHI, L. Fenerty, BN, DO, (MP), G. Thibault-Halman, MSc, M, Erdogan, PhD, MHI, S. Walling, MBCchB, D.B. Clarke, MDCM, PhD; Dalhousie University, Halifax, NS

Introduction: Although alcohol use increases the risk of experiencing a traumatic brain injury (TBI), it remains unclear whether outcomes in alcohol-impaired patients are different from those of unimpaired patients. The objective of this study was to evaluate the effect of alcohol on length of stay (LOS) and mortality in patients with major TBI.

Methods: Using data collected from the Nova Scotia Trauma Registry, we performed a retrospective analysis of all patients with major TBI (defined as having an abbreviated injury score (AIS) head ≥3) seen in Nova Scotia hospitals between 2002 and 2013. Patients were compared by blood alcohol concentration (BAC) at time of injury: negative (0-1.9 mmol/L), low (2-21 mmol/L), and moderate/high (>22 mmol/L). A logistic regression model was constructed to test for outcomes and adjusted for the effects of age, gender, location, injury severity score (ISS), and BAC level.

Results: In a twelve-year period, there were 4152 major TBI patients in Nova Scotia. Alcohol testing was performed in 43% of cases (80% male, mean age 44±20 years), with 48% having a positive BAC. Mean acute LOS was similar for all three BAC groups. Increasing age (odds ratio [OR] = 1.01; p < 0.001), high ISS (OR = 4.92; p < 0.001), injuries occurring outside of Halifax Regional Municipality (OR = 1.72; p < 0.001), and having a lower BAC level (OR = 0.99; p < 0.001) independently predicted mortality.

Conclusion: Our findings suggest that low BAC levels are associated with increased mortality in major TBI patients. Further study is warranted to elucidate alcohol’s mechanism in TBI outcomes.

Keywords: alcohol, traumatic brain injury, outcomes

P054
Development of a hospital-wide program for simulation-based training in trauma care and management
R. Green, MD, S. Minor, MD, K. Hartlen, M, Erdogan, PhD, MHI; Dalhousie University, Halifax, NS

Introduction: The Queen Elizabeth II Health Sciences Centre (QEII HSC) is a Level I trauma center that provides tertiary care services to the province of Nova Scotia (pop. 940,592) and quaternary care services to Atlantic Canada (population > 2.4 million). The objective of this study was to describe and evaluate the development of an interprofessional hospital-wide trauma simulation that was performed at the QEII HSC in June of 2015.

Methods: The simulation was performed in the dedicated trauma resuscitation bay in the emergency department of the trauma centre using SimMan equipment. The scenario involved a 35-year-old male pedestrian versus car at approximately 70 km. The patient required immediate resuscitation and transfer to the operating room. Evaluation of the simulation was through video feedback, time stamping, piloting of resident Trauma Team Activation evaluation, observation for latent safety issues, and participant feedback. Trauma team members were unaware of simulation prior to arrival.

Results: Feedback received from simulation participants indicated that this exercise was incredibly “real” for them. Using the usual emergency department patient registration proved difficult in this simulation exercise, both for activation of the massive transfusion protocol and transfer of the patient to the operating room. Latent safety issues identified included a lack of communication with the operating room and unavailability of some resuscitation equipment. Debriefing after the event was felt to be important by all participants of the simulation. Having evaluators dedicated to observing specific aspects of the simulation would facilitate these exercises. Patient care was not interrupted in the emergency department or the operating room.

Conclusion: The in situ simulation was a valuable experience for the trauma program, stakeholders, and all participants. Based on this trial simulation, additional simulations will be held within our trauma program. Further research is required to validate long-term retention of skills and knowledge, and to evaluate the impact of simulation training on staff performance and trauma patient outcomes.

Keywords: trauma, simulation, inter-professional