

Keywords: upper gastrointestinal bleeding, blood transfusions, hemoglobin

LO078

The immigrant effect: a barrier to accessing primary and emergency department care - a Canadian population cross-sectional study

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Introduction: In 2011, Canada had a foreign-born population of about 6,775,800 people. They represented 20.6% of the total population, the highest proportion among the G8 countries. Immigrants encounter significant barriers to accessing primary healthcare. This is thought to be due to lower education level, employment status and the healthy immigrant effect. Our objective was to assess in an immigrant population without a primary care physician, would similar socioeconomic barriers also prevent access to the emergency department. **Methods:** Data regarding individuals' ≥ 12 years of age from the Canadian Community Health Survey, 2007 to 2008 were analyzed ($N = 134,073$, response rate 93%). Our study population comprised 15,554 individuals identified without a primary care physician who used emergency department care. Socioeconomic variables included employment, health status, and education. Covariates included chronic health conditions, mobility, gender, age, and mental health. Prevalence estimates and confidence intervals for each variable were calculated. Weighted logistic regression models were constructed to evaluate the importance of individual risk factors and their interactions after adjustment for relevant covariates. Model parameters were estimated by the method of maximum likelihood. The Wald statistic was employed to test the significance of individual variables or interaction terms in relation to ED choice. **Results:** Our study population included 1,767 immigrants and 13,787 Canadian born respondents from across Canada without a primary care physician (57.3% male). Immigrants were less likely to use the emergency department than Canadian born respondents (Odds Ratio 0.4759 (95%CI 0.396-0.572). Adjusting for health, education or employment had no effect on this reduced access (Odds Ratio 0.468 (95%CI 0.378-0.579). **Conclusion:** In a Canadian population without a primary care physician, immigrants access the emergency department less than Canadian born respondents. However this effect is independent of previously reported social and economic barriers. Immigration status is an important but complex component of racial and ethnic disparity in access to care. Specific policy and system development targeting this at risk population are required to allow for equal access to healthcare.

Keywords: immigrant, emergency department, primary care

LO079

Prevalence and geographic variability of ectopic pregnancy in Ontario using inpatient and outpatient data: a 12-year surveillance study

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Introduction: It is estimated that 6% to 13% of patients presenting to the emergency department (ED) with vaginal bleeding or abdominal pain will have ectopic pregnancy. Risk factors such as previous pelvic infections, assisted reproductive technologies and previous tubal surgery as well as prevalence of ectopic pregnancy vary geographically. To date, the surveillance of ectopic pregnancy in Canada has been limited to

hospitalized patient data, excluding patients receiving methotrexate therapy, day surgery or expectant management, possibly underestimating the true prevalence. The objective of this study was to determine Ontario's ectopic pregnancy rate and geographic variability using both inpatient and outpatient data sources. **Methods:** Data from the Canadian Institute for Health Information Discharge Abstract Database, Same Day Surgery Database, National Ambulatory Care Reporting System, and Ontario Health Insurance Plan (OHIP) Claims Database was retrieved for all females with valid OHIP coverage aged 15 to 45 years from July 2002 to August 2014. Using ICD-10 and OHIP codes for ectopic pregnancy, abortions and deliveries, the rates and distribution of ectopic pregnancy (per 1000 reported pregnancies) by age group and public health unit (PHU) were documented. These data were also compared to the rate of ectopic pregnancy documented using only hospitalized patient data. **Results:** Using inpatient and outpatient data sources, the rate of ectopic pregnancy in Ontario increased from 20.5 to 27.5 per 1000 reported pregnancies from 2002 to 2014, respectively. The rate of ectopic pregnancy using only hospitalized patient data decreased from 12.6 to 9.5 per 1000 reported pregnancies from 2002 to 2014, respectively. The median (IQR) rate of ectopic pregnancy over the 12-year study period varied across public health units in Ontario, ranging from 14.9 (12.5, 17.5) to 37.7 (29.1, 55.8) per 1000 reported pregnancies. **Conclusion:** The rate of ectopic pregnancy is increasing in Ontario and has been previously underreported using only hospitalized patient data. Further research is needed to identify the factors resulting in this increase as well as the outcomes of ectopic pregnancies in Ontario.

Keywords: ectopic pregnancy, pregnancy, gynecology

LO080

Performance and proximity: exploring resident factors that impact the quality of work-based assessments

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Introduction: Much of the literature investigating the challenges associated with completing high quality work-based assessments (WBAs) have raised specific concerns over the appropriate documentation of assessments of underperforming trainees or trainees in difficulty. The purpose of this study was to examine the relationship between resident performance and the quality of assessments documented by supervisors on Daily Encounter Cards (DECs). The effect of trainee proximity (i.e. on-service versus off-service status) on this relationship was also examined. **Methods:** A series of DECs from the Department of Emergency Medicine at the University of Ottawa was scored by two raters using the Completed Clinical Evaluation Report Rating (CCERR). The CCERR is a 9-item instrument that has previously demonstrated reliable ratings and the ability to discriminate the quality of completed DECs. A proxy measure of resident performance was calculated by averaging the scores across performance items on the DEC to produce a "mean DEC rating". Linear regression analysis was conducted with "mean DEC rating" as the independent measure and CCERR score as the dependent measure. Separate linear regression analyses were repeated for DECs completed for on-service versus off-service residents. **Results:** Linear regression analysis demonstrated a small but significant inverse relationship between mean DEC rating and CCERR score ($p < 0.001$, $r = -0.184$), suggesting that when residents performed poorly, their supervisors tended to document higher quality assessments, and conversely, when residents performed well, their supervisors provided lower quality assessments. Further analysis demonstrated that this relationship was present for the on-service group

($p < 0.001$, $r = -0.24$). However, no relationship was observed in the off-service group ($p = 0.62$, $r = -0.05$). **Conclusion:** Resident performance and trainee proximity are important factors impacting the quality of documented clinical performance assessments. Greater attention needs to be given to determining ways of improving the quality of assessments reported for residents who are appropriately progressing in their clinical competence as well as for off-service trainees.

Keywords: resident assessment, daily encounter cards, trainee proximity

LO081

Novel EMS spine board to accurately weigh critically ill or injured children

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Introduction: A rapid and accurate weight of a child can be of critical importance during pediatric emergencies. The Broselow Tape (BT) is the gold standard for estimating a child's weight based on their length. It separates children into incremental weight categories. Studies have shown that the BT is not accurate. We created a new pediatric spine board (PedEBoard) that weighs the child. The objective of this study was to compare the agreement between the actual weight vs. the PedEBoard weight and BT estimated weight of children presenting to a pediatric emergency department (ED). **Methods:** Ethics approval was obtained from McMaster University. A power calculation was done for sample size to detect 10% error. Consecutive children were recruited who presented to McMaster University's Children's ED on two days in March 2015. Children were excluded if their length was outside the BT range, non-English speaking or critically ill. Children had their weight taken by the triage nurse either on an infant scale or on a traditional standing scale. The nurse also took the child's length using a standard measuring tape or height on the standing medical scale. Infants were placed on the PedEBoard by investigators while older children were asked to lie down on the board. Investigators were blinded to the actual weight. BT weight was determined by the palmPEDi Lite app. Bland-Altman analysis was performed, comparing the percent difference between the actual weight vs. PedEBoard weight and actual weight vs. BT weight. The correlation between the PedEBoard and BT was assessed using the Spearman coefficient of rank. Data was entered into MedCalc for Windows 98, Version 15.2.2 **Results:** A total of 157 children were included in the study. The mean actual weight was 19.4kg (95% CI 17.4 to 21.3) vs. the PedEBoard weight 19.4kg (95% CI 17.4 to 21.3) vs. the BT weight 16.9kg (95% CI 15.6 to 18.2). Bland-Altman percent difference was 0.1% (95% CI -2.0 to 1.8%) between the actual weight and the PedEBoard weight and 9.6% (95% CI -22.0% to 41.2%) between the actual weight and the BT weight. The Spearman coefficient of rank correlation was 1.000 $p < 0.0001$ (95% CI 0.999 to 1.000) for the PedEBoard and 0.969 $p < 0.001$ (95% CI 0.957 to 0.977) for the BT. The BT provided the wrong weight category 80% of the time vs. 8% for the PedEBoard. **Conclusion:** The PedEBoard closely agreed with the actual weight of the child while the Broselow Tape estimate often did not.

Keywords: pediatrics, resuscitation, Broselow Tape

LO082

EMS response to police use of force events: periods of personal and professional risk in prehospital care

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Introduction: This study provides an estimate of the number of EMS calls related to police use of force events that involve struggling, intoxicated and/or emotionally distressed patients. We hypothesized there would be under-reporting of EMS risk by paramedic agencies due to lack of standardized reporting of police events by EMS services and lack of a common linked case number between prehospital agencies in Canada. **Methods:** Data were collected during a multi-site, prospective, consecutive cohort study of police use of force in 4 Canadian cities using standardized data forms. Use of force was defined a priori and the application of handcuffs was not considered a force modality. Inclusion criteria: all subjects ≥ 18 years of age involved in a use of force police-public encounter. We defined risk to EMS as the presence of police- and/or paramedic- assessments of violent or struggling subjects on the scene. Three separate data forms (police-report of use of force, EMS encounter, and Emergency Department (ED) visit) were linked in the study by unique ID. When police-reported EMS was activated, investigators hand searched the EMS service reports at the relevant agencies for matching call sheets. **Results:** From Jan 2010 to Dec 2012, we studied 3310 consecutive public-police interactions involving use of force above simple joint lock application. Subjects were male (86%) with a mean age of 33 yrs; 85% were assessed by police as emotionally disturbed, intoxicated with drugs and/or alcohol or a combination of those. 45% were violent at the scene. Police-reported EMS attendance in 24% (809/3310) of use of force events, of which only 43% (349/809) of EMS run sheets were available. In events with violent subjects, EMS transported 51% to ED compared to 35% by police transport ($\chi^2 = 79.7$, $p = 0.00$). **Conclusion:** We identified periods of professional and physical risk to paramedics attending police use of force events and found that risk significantly underrepresented in EMS data. Paramedical training would benefit from policy and procedures for response to police calls and the violent patient, the majority of whom are struggling. A common linked case number in prehospital care would enable more specific quantification of the risk for EMS providers involved in police events.

Keywords: paramedicine, police, intoxication

LO083

Outcomes and resource utilization among syncope patients transported by emergency medical services

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Introduction: Syncope accounts for 1% of all annual emergency department (ED) visits in Canada with only 10.3% suffering serious adverse event (SAE) within 30-days. However, 66% are transported to ED by Emergency Medical Services (EMS). Our objectives were to assess 30 day SAE among syncope patients transported by Emergency medical services (EMS), assess the need to develop an EMS clinical decision aid, and estimate anticipated health care savings by diverting patients from the ED to alternative care pathways. **Methods:** We conducted a prospective cohort study at four tertiary care EDs from Feb 2012 to Feb 2013. We included patients ≥ 16 years of age with syncope and who arrived to the ED via EMS. We collected patient demographics, medical history, 30 day SAE, EMS time points (call received, EMS arrival on scene, EMS departure from scene, time of transfer of care in the ED), critical EMS interventions, and ED