

(0.97; 95%IC: 0.95-0.99) in comparison to the ISS (0.78; 95%IC: 0.71-0.85). **Conclusion:** The BIG score is an excellent predictor of survival for children visiting the emergency department following a blunt trauma.

Keywords: children, blunt trauma, mortality

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Emergency department directed multifaceted interventions to improve outcomes after asthma exacerbations: a 3-armed randomized controlled trial

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Introduction: Approximately 20% of Canadians who present to emergency departments (EDs) with acute asthma relapse within 4 weeks of discharge. The reasons are likely multi-factorial; however, the lack of timely primary care provider (PCP) follow-up and inadequate patient self-management are thought to be important variables. Therefore, we tested the effectiveness of ED-directed multifaceted interventions that targeted PCPs and enhanced patient self-management to reduce asthma relapse following ED discharge. **Methods:** Adults with acute asthma discharged from 6 Alberta EDs were randomly allocated, in a centralized and concealed manner, to receive usual care (UC), opinion leader [OL] guidance to their PCPs, or OL guidance + nurse case-management [OL+CM] for patients (NCT01079000). The main outcome was asthma relapse within 90-days of ED discharge. Secondary outcomes included PCP visits, time to relapse, hospitalizations and asthma-related quality of life (QoL). Outcomes were collected independently and assessors were masked to intervention assignment. **Results:** From 943 screened patients, 367 patients were allocated to the study arms (UC = 146; OL = 110; OL+CM = 111). Median age was 28 years, 64% were women, median peak flow at discharge was 350 L/min; 77% were discharged home on prednisone and 85% on either inhaled corticosteroids (ICS) or ICS/long-acting β_2 -agonists. Compared with UC, both interventions significantly *increased* rates of relapse at 90-days: UC = 12%, OL = 28%, OL+CM = 19%; $p = 0.006$. Based on an absolute increased risk of 0.16 (95% CI: 0.05, 0.25), the number needed to treat for harm was 6 (95% CI: 3.9, 19.0) for the OL arm. Across study differences in PCP follow-up visits, time to relapse, hospitalizations or asthma-related QoL were not identified. **Conclusion:** Two different theory-informed and evidenced-based interventions intended to decrease asthma relapse robustly and significantly increased rates of relapse compared with UC. While the reasons for these unintended consequences require further study, we caution against the adoption of similar interventions by other EDs.

Keywords: asthma, education

LO65

Outpatient care gaps in subjects presenting to emergency departments with acute asthma

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Introduction: Many patients presenting to Emergency Departments (EDs) with acute asthma have limited or no access to health care providers, medications and preventive resources. This study explored outpatient care gaps among subjects presenting to the ED for acute asthma, before being discharged. **Methods:** Cross-sectional analysis of data obtained in a comparative effectiveness trial conducted in six EDs in Alberta

(NCT01079000). Data were collected through patient interviews and chart reviews at ED presentation. Two clinician-investigators independently reviewed and adjudicated the following preventive actions: use of spacer devices, written asthma action plans (AAPs) and asthma medication; influenza immunization, cigarette smoking, and referral to asthma education. Agreement between adjudicators was calculated based on kappa (k) statistics. **Results:** The median age of the study population ($n = 367$) was 28 years and 64% were women. Overall, 26% of patients reported not having a regular family physician. Agreement between reviewers was excellent ($k = 0.96$). More than half (59%) reported not using spacer devices despite being indicated and 3% reported having a written AAP. Following the recommendations of the current asthma guidelines, 38% of the patients required the initiation of inhaled corticosteroids (ICS), 11% required the addition of ICS/long-acting β -agonists combination agents and 39% required reinforcement of adherence with preventer medications. Finally, 37% reported receiving influenza vaccination in the past year, 7% had been referred to asthma education in the last 10 years, and 31% were still smoking, suggesting that cessation counselling was indicated. **Conclusion:** The ED encounter for patients with acute asthma represents a unique opportunity to establish important partnerships across the continuum of asthma care (e.g., link them with a family doctor). This study provided a robust assessment of the outpatient care gaps in this patient population, which identified many areas for targeted interventions. The method of delivery and type of messaging needs further study.

Keywords: asthma, education

LO66

Did the Choosing Wisely Canada campaign work? A retrospective analysis of its impact on emergency department imaging utilization for head injuries

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Introduction: Head injuries are a commonly encountered presentation in emergency departments (ED) and the Choosing Wisely Canada (CWC) campaign was released in June 2015 in an attempt to decrease imaging utilization for patients with minor head injuries. The impact of the CWC campaign on imaging utilization for head injuries has not been explored in the ED setting. In our study, we describe the characteristics of patients with head injuries presenting to a tertiary care academic ED and the impact of the CWC campaign on CT head utilization. **Methods:** This retrospective cohort study used linked databases from the province of Ontario, Canada to assess emergency department visits with a primary diagnosis of head injury made between June 1, 2014 and Aug 31, 2016 at the University Health Network in Toronto, Canada. We examined the number of visits during the study period, the proportion of patients that had a CT head performed before and after the release of the CWC campaign, as well as mode of arrival, and disposition. **Results:** There were 4,322 qualifying visits at our site during the study period. The median presenting age was 44.12 years (IQR 27.83,67.45), the median GCS was 15 (IQR 15,15) and the majority of patients presenting had intermediate acuity (CTAS 3). Overall, 43.17% of patients arrived via ambulance, 49.24 % of patients received a CT head and 10.46% of patients were admitted. Compared to patients presenting before the CWC campaign release, there was no significant difference in the rate of CT heads after the CWC (50.41% vs 47.68%, $P = 0.07$). There were also no significant differences between the two groups in mode of arrival (ambulance vs ambulatory) (42.94% vs 43.48%, $P = 0.72$) or admission rates (9.85% vs 11.26%, $P = 0.15$). However, more patients belonged to the high acuity groups (CTAS 1 or 2) in the post CWC campaign release group (12.98% vs 8.11% $P < 0.001$). **Conclusion:** Visits for head