**A148 - Adverse events among those admitted to the icu: a retrospective cohort study using administrative data**

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**Introduction:**
The objective of this study is to estimate the frequency and type of, and factors associated with adverse events (AEs) among those with an intensive care unit (ICU) admission.

AEs are unintended, negative consequences of care that compromise patients’ health and are costly to the healthcare system. In Canada, an estimated 7.5 per 100 hospital admissions are associated with an AE, but evidence suggests that the rate of AEs varies by hospital unit and by patient population. However, few studies examine AEs in the ICU.

**Methods:**
This retrospective cohort study included patients admitted to 30 adult ICUs & CCUs in Alberta, Canada (n=30) between May 2014 and April 2017. Validated ICD-10CA algorithms for 18 patient safety indicators were used to estimate the frequency of any AE and each type of AE. Regression analysis was used to examine factors associated with AEs.

**Results:**
Of 49,447 admissions, the typical admission was a 62 (IQR=21) year old male (64%), admitted for a non-surgical cardiac reason (35%).

A least 1 AE was experienced by 12,549 (25%) ICU patients during their hospital admission. The most common AEs were respiratory complications (10%) and hospital acquired infections (9%).

Those who were re-admitted to ICU (OR=4.83, 95% CI=4.48, 5.20), admitted for a general surgical vs. non-surgical cardiac reason (OR=9.49, 95% CI=8.84, 10.20) and had >=2 comorbidities (OR=1.82, 95% CI=1.73, 1.92) had increased odds of an AE, while those who spent >50% of their hospital admission in ICU (OR=0.42, 95% CI=0.41, 0.44) had decreased odds of an AE. Those who experienced an AE stayed 5.8 days longer in ICU and 23.5 days longer in hospital, and had increased risk of hospital mortality (OR=2.41, 95% CI=2.27, 2.55) than those who did not experience an AE.

**Conclusion:**
AEs are common among patients admitted to ICU, highlighting the need for ongoing quality improvement initiatives to improve the safety of care.