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Patterns of opioid utilization in the 90-days post hospital discharge and risk of re-admissions and emergency department visits

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Introduction

Over the past 20 years, increases in opioid prescribing rates and average prescription volumes have been documented in both the United States and Canada. As prescription opioid use and overdose has steadily increased in North America, a dramatic rise in hospitalizations resulting from opioid poisonings has also been witnessed.

Conclusion/Implications

Patients with a history of opioid use were more likely to both receive an opioid prescription at hospital discharge and fill their prescription post-discharge. Our findings suggest that longer-term utilization patterns of these medications after hospitalization may increase risk of re-admissions and ED visits.

Objectives and Approach

To describe opioid utilization patterns for patients admitted to a tertiary care hospital in Montreal between 2014 and 2016, and to estimate the association between opioid use and risk of adverse health outcomes in the 90-days post discharge. Opioid utilization was measured using medication dispensing data from the provincial healthcare databases (RAMQ) while hospital/ED visits were obtained from RAMQ medical services. Patient characteristics and discharge prescriptions were obtained from the hospital chart. Time-varying utilization of opioids was modeled as: 1) current use, 2) cumulative duration of past use, and 3) duration of use of past 10 days, using Cox models.

Results

Of the 3,308 included patients mean age was 70 (SD 14), 57% were male and 47% were discharged from surgical units. 856 (26%) patients had a history of opioid use in the 1-year prior to admission, 1528 (46%) were prescribed an opioid at discharge and 1481 (45%) filled an opioid in the 90-days post discharge. Among patients prescribed an opioid at discharge, 79% filled their prescription post discharge, where opioid naïve patients were less likely to fill their prescriptions compared to those with a history of opioid use (40% vs 81%). Our multivariable Cox models suggested that cumulative duration of opioid exposure in the past 10 days was associated with a 10% increased risk of ED visits and hospitalizations.