

462 | Post-surgical opioid prescriptions and risk of long-term use in the USA

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Background: In response to the opioid crisis, some have focused on restricting the days supply for initial post-surgical prescriptions to ≤ 7 days. However, there is limited evidence of the effect of limiting days supply on long-term use.

Objectives: To evaluate differences in risk of long-term use following surgery among an opioid naïve population using the 7-day cutoff, compared with cutoffs based on morphine milligram equivalents (MME) and quantity of pills (QTY) dispensed.

Methods: Using the MarketScan Commercial Claims and Encounters and Medicare Supplemental database, we identified all patients undergoing outpatient surgery between 1/1/2006 and 9/30/2015. Patients were required to have ≥ 12 months of prior continuous enrollment with no baseline surgeries or opioid prescriptions, and ≥ 180 days of follow-up. We identified the initial post-surgical opioid prescribed, examining the days supplied, total MME, and QTY dispensed. We used Poisson regression controlling for age, sex, surgical site, year, and baseline health comorbidities (mental health, history of substance abuse, pain-related diagnoses, medications) to estimate adjusted risk differences (RD) per 100, risk ratios and 95% confidence intervals (CI) of long-term opioid use (prescription fill 90-180 days post-surgery) comparing those receiving larger versus smaller amounts of opioids.

Results: We identified 6 866 805 opioid-naïve surgical patients (mean age 46 yrs). Overall, 35% received an opioid for post-operative pain, with median days supply = 4, median total MME = 200, and median QTY = 30. Among those receiving post-op opioids, 13% received prescriptions for >7 days and 7% had long-term opioid use. Risk of long-term use was 1.22 times (CI: 1.17, 1.29) higher among those receiving >7 days (RD = 1.5, CI: 1.4, 1.6) compared with those receiving ≤ 7 days. Those receiving >200 MME were at 1.08 times (CI: 1.04, 1.13) the risk of long-term use compared with those receiving ≤ 200 MME (RD = 0.46, CI: 0.40, 0.53), and patients receiving >40 pills were at 1.18 times (CI: 1.12, 1.23) the risk of long-term use (RD = 1.1, CI: 1.0, 1.2) compared with those receiving ≤ 40 pills.

Conclusions: Opioid naïve patients receiving >7 -day supply of opioids for post-op pain were at increased risk of long-term use. While patients receiving >200 MME or >40 pills were also at increased risk, the association was stronger among those with >7 days supplied (number needed to harm ~68). Further work will examine predictors of initial prescriptions above recommended cut points, and risk factors for continued use after 90 days.

463 | Adherence of prescribers to recommendations to reduce medication related hospitalizations

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Background: In the Netherlands a task force assigned by the Dutch government developed 40 recommendations to reduce medication related hospitalizations.

Objectives: The aim of this study was to assess the adherence of prescribers to these recommendations.

Methods: The adherence of prescribers to the recommendations was measured for the years 2009-2014, in the Integrated Primary Care Information database (IPCI: containing data from GP patient record systems) and a community pharmacists (CP) database (SFK: containing medication dispensing data) using pre-specified performance indicators. Measurability of indicators depended on the data available in each database. Potential for improvement of adherence was assessed by two independent reviewers per database. Of the 40 recommendations, 11 were translated into 29 indicators measurable in both databases and 7 into 28 additional indicators measurable only in IPCI.

Results: In IPCI 7 indicators (12%) improved during the study period and 50 indicators (88%) remained the same. For 40% of these indicators no further improvement is expected. Twenty-one indicators (36%) with still a large potential for improvement were related to *gastrointestinal and other bleedings* (4), *electrolyte disturbances*, *renal insufficiency and heart failure* (10), *fractures due to fall incidents* (4), *fractures associated with glucocorticoid steroids* (2), and *bradycardia associated with digoxin and/or sotalol* (1). Twelve of these indicators originated from recommendations advising laboratory measurements before or after initiation of a new treatment. In SFK only 29 indicators were measurable. For 74% of these indicators no further improvement is expected. Two indicators showed improved adherence during the study period. The two indicators with large potential for improvement were related to *gastrointestinal and other bleedings*. Six indicators were estimated with different potential for improvement between the databases.

Conclusions: As shown in two types of databases, the majority of indicators still have a potential for improvement. These results show that despite efforts by regulatory officials and health care professionals in response to multiple safety reports, adherence of prescribers to these recommendations can still be improved.