

Increase in High-Dose Opioid-Prescribing and Opioid-Related Hospitalizations

Background

- Opioids are a group of prescription drugs typically used to relieve pain. Growing use of opioids to treat chronic non-cancer pain, particularly at high doses, has been the cause of considerable concern for clinicians and policy-makers as these high doses have been associated with morbidity and mortality including fatal and non-fatal drug overdoses, falls, fractures and injuries in motor vehicle accidents.
- In 2010, the Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain was released to provide evidence-based recommendations for the appropriate use of opioids. These guidelines were the first in Canada to establish dose thresholds for opioid prescribing in chronic non-cancer pain. Following the publication of these guidelines, the Ontario government implemented the Narcotics Safety and Awareness Act (NSAA) in 2011 which aimed to promote appropriate use of prescribed drugs in Ontario.

What were we investigating?

The impact of national clinical practice guidelines and provincial drug policy legislation on the prevalence of high-dose opioid prescribing and rates of hospital visits for opioid toxicity.

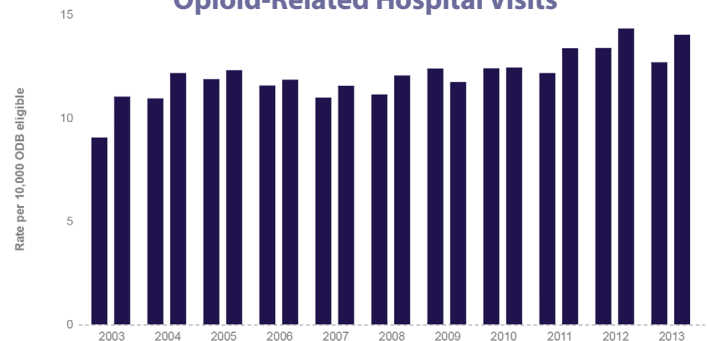
How was the study conducted?

- We conducted an interventional time-series analysis among individuals aged 15 to 64 eligible for the Ontario Drug Benefit (ODB) program between January 2003 and December 2014 in Ontario, Canada.
- We defined high dose opioid users according to the Canadian guideline threshold of doses exceeding 200 mg morphine equivalent (MEQ). We further defined very high dose users as those who daily dose exceeded 400 mg MEQ.
- We identified 769,895 individuals receiving at least one opioid prescription for oxycodone, transdermal fentanyl, morphine, meperidine, hydromorphone or codeine. Individuals receiving an opioid for cancer pain or in palliative care were excluded.
- Prevalence of high-dose opioid prescribing was determined by calculating the average daily dose dispensed (in MEQs) for all concurrently prescribed opioids.
- The following 3 outcomes were examined:
 1. Rate of opioid use among ODB beneficiaries;
 2. Prevalence of high dose and very high dose opioid use;
 3. Rate of hospital visits for opioid toxicity.

What did we find?

- The introduction of Canadian clinical practice guidelines led to a 13.7% reduction in the rate of opioid use; however the NSAA had no further impact on this rate. Overall, the rate of opioid use declined by 12% between 2010 and 2014.
- Despite the decrease in rates of opioid use, the prevalence of high-dose opioid prescribing among opioid users rose from 4.2% to a high of 10% in 2011, before falling to 8.7% at the end of 2013.
- By the end of 2014, 2 in 5 long-acting opioid users exceeded high doses and 20% exceeded very high doses.
- Rates of opioid-related hospital visits increased 13% between 2010 and 2013. This rate did not appear to be influenced by the prescribing guidelines or the NSAA despite the decrease in the rate of opioid use.

Opioid-Related Hospital Visits



Key points

- Moderate reductions in overall opioid use followed the 2010 release of Canadian clinical practice guidelines.
- Despite the decrease in opioid prescribing, the prevalence of high-dose opioid use of long-acting oxycodone and fentanyl rose throughout the study period.
- These guidelines and the enactment of the NSAA legislation did not lead to significant changes in rates of opioid-related overdoses resulting in hospital visits

Recommendations

Policymakers

- Given the increased rate of high dose prescribing in Ontario, policymakers should consider strategies and programs aimed at addressing high dose opioid prescribing.

Clinicians

- Clinicians should carefully consider the dose of opioids that they prescribe, and whether doses exceeding those outlined in clinical guidelines are warranted. Consideration should be made for appropriate tapering of dose where necessary to avoid unintended patient harm.

Patients

- Use of high dose opioids can be risky, but rapid discontinuation can also be dangerous. If you're concerned about your current opioid use, talk to your doctor about how to safely lower your dose. If you're worried that you've become addicted to opioids, speak to your doctor about how to access treatment programs.