

## Background

### Why is this important?

- The use of opioids, particularly in higher doses, has been associated with significant harm including the development of opioid use disorder, toxicity, diversion and death.
- Family physicians (FP) are generally considered to be the single largest group of opioid prescribers in North America. Similarly, emergency physicians (EP) also provide primary care to patients and often prescribe opioids for painful conditions. While existing evidence suggests that opioids prescribed in the emergency department, especially to opioid naïve patients, may be associated with significant harm, the relative contribution to overall opioid prescribing by EPs and FPs in Ontario remains unknown.

### What were we investigating?

1. Opioid prescribing patterns by emergency and family physicians,
2. The relationship between an individual's initial opioid prescription location and a) hospital admission for opioid toxicity, and b) dose-escalation exceeding 200 mg morphine equivalents (MME).

## Key Points

- Over a 6-year period, family physicians (FP) and emergency physicians (EP) contributed similarly to the total number of opioid prescriptions written for opioid naïve patients.
- However, there are significant differences in prescribing practices between these two provider groups. Patients initiated on opioids by EPs were prescribed higher initial daily doses and had a higher likelihood of hospitalizations related to opioid toxicity events.

## Study Details

### How was the study conducted?

- We conducted a population-based cohort study of Ontario residents between the ages of 15 and 64 who were eligible for public drug coverage and started opioids between April 1, 2008 and March 31, 2012.
- For the first objective, we looked at the setting (emergency or primary care) in which an individual first received an opioid prescription. Within each setting, we measured health services use as the number of emergency department (ED) visits, physician office visits, and inpatient hospitalizations in the year prior to their first opioid prescription.
- For the second objective, we followed individuals from opioid initiation until the first of 1) death, 2) end of follow-up on March 31, 2014, or 3) a maximum of 2 years to determine outcomes related to opioid dose and toxicity. The primary outcome was an opioid toxicity event, defined as an ED visit or hospitalization showing signs of opioid toxicity. The secondary outcome was defined as receiving an opioid prescription with a daily dose of 200 MME or higher within their period of continuous opioid use.



### What did we find?

- EPs were responsible for 43% (N=34,713) of opioid initiations compared to FPs who were responsible for 57% (N=45,952). Both EPs and FPs were most likely to prescribe codeine containing products (58.9% vs 79.6%).
- Patients initiated by FPs tended to be older, had fewer ED visits and more FP visits in the year prior to their initial prescription, compared to EPs. These individuals also more often reached a dose escalation beyond 200 mg MEQ (0.7% vs 0.1%;  $p>0.05$ ).
- Patients initiated by EPs were generally prescribed higher daily doses and a higher percentage was initiated on a daily dose exceeding 100 mg MEQ, compared to FPs (3.1% vs 0.9%). These individuals were also significantly more likely to have a hospital visit for opioid toxicity (0.5% vs 0.3%;  $p<0.0001$ ).
- In both groups, over half of patients had a history of psychiatric illness, and 21% were prescribed benzodiazepines within 180 days prior to starting opioids.

## Recommendations

### Physicians

- A large number of patients treated by both EPs and FPs have known risk factors associated with adverse outcomes related to opioid use. Physicians should carefully consider initial prescription doses, particularly for opioid naïve patients, as well as ensure proper screening procedures are conducted prior to opioid prescribing for these populations.

### Policymakers

- Policymakers should consider educational programs for clinicians treating patients with acute and chronic pain to ensure that prescribing practices are safe and appropriate.

### Patients

- If you have recently been prescribed an opioid for the first time, talk to your doctor about appropriate doses, when it might be safe and appropriate to discontinue your medication, and whether you are considered a high-risk patient.

## For more information

Borgundvaag B et al. Comparing opioid prescribing and adverse events for opioid naïve patients treated by emergency and family physicians. CMAJ Open, 2018.