

**REDUCING THE COMMUNITY-PRESCRIBED OPIOID LOAD:
A PUBLIC HEALTH APPROACH TO THE OPIOID EPIDEMIC**

Prescription opioids are associated with a serious and increasing epidemic of harms in North America. Canada is the world leader in per-capita opioid consumption with approximately 360,000 individuals dependent on prescription opioids.¹ Canada has a slightly larger geographic area than the United States, with a population of about 35 million. Within Canada, Ontario is the leading province in opioid prescribing.² Over the last decade, Ontario has witnessed a progressive increase in unintentional opioid-overdose fatalities. In fact, deaths from opioid-related toxicity have more than tripled since 2002.³ A public health crisis of this magnitude requires a robust comprehensive response.

Unlike other disease outbreaks, the opioid epidemic is described as “doctor-driven” because it has been caused, in part, by physician prescribing practices. Though the use of prescription opioids continues to be a subject of debate, the harmful and highly addictive nature of these drugs is clear. In fact, there is no evidence to indicate that opioids can be safely used for long term treatment of chronic pain.^{4,5} Dependence and addiction can occur quickly and pose a far greater problem than was once believed. Physical dependence develops within only days to weeks after a patient starts using opioids and up to 35 percent of patients on chronic opioid therapy have an opioid-use disorder.^{6,7}

The close link between increased prescription rates and increased rates of morbidity and mortality is well established.⁸⁻¹⁰ Moreover, increased prescription rates have led to a greater risk of diversion. Although diversion can take many forms, physicians’ prescriptions account for a major source of diverted opioids. In Ontario, a significant proportion of opioid overdose deaths are due to the illicit diversion of legally obtained opioids.³ Furthermore, a study published in *Canadian Family Physician* found that over 37 percent of individuals entering a detoxification program in Toronto acquired all their opioids through physicians’ prescriptions.¹¹ The misuse of prescription opioids is a serious and growing public health problem, and all prescribers have a duty to reduce this diversion.

The concept of a community-prescribed opioid load, adapted from the field of infectious diseases, may serve as one part of a multicomponent solution to the opioid epidemic. The concept is analogous to that of a community HIV viral load, which estimates the risk of HIV transmission within a population based on aggregate levels of the replicating virus in the blood of infected community members.¹² Similarly, the risk of opioid-related harms could be measured as the total quantity of opioids prescribed in a community over a given time, measured in milligram morphine equivalents. A reduction in the opioid load would decrease the availability of prescription opioids within a community and thereby reduce harm.

Several initiatives are in place in Canada which could reduce community-prescribed opioid loads. Ontario will become the first province to stop paying for high-dose opioid medications under its public drug plans in an attempt to reduce the widespread abuse of prescription opioids. The Ministry of Health and Long Term Care has given notice that, beginning in January 2017, all opioids exceeding a dose of 200 milligram morphine equivalents a day will be delisted from the province’s drug formulary.¹³ In British Columbia, another province severely affected by the opioid epidemic, the College of Physicians and Surgeons has released professional standards and guidelines regarding the safe prescribing of opioids to refine physicians’ practices.¹⁴ Actions can also be taken at the local level. Though there are no prescribing guidelines for opioids in Ontario, several Emergency Departments in the province have established their own guidelines, which include recommendations such as using nonopioid therapy as first line and not refilling any lost or stolen prescriptions.¹⁵ The Fentanyl Patch for Patch program makes it more difficult to misuse or abuse fentanyl prescriptions by requiring patients to return used patches to the pharmacy prior to further dispensing.¹⁶ The initiative was initially implemented in several Ontario communities as a volunteer program, and was accepted as legislation in December 2015 based on a Private Member’s Bill.¹⁷

Prevention strategies, such as those described above, are effective ways to reduce the community-prescribed opioid load, and therefore the harms associated with prescription opioids. As an important step

in outbreak management, the effectiveness of any intervention must be monitored longitudinally. Communities can set benchmark goals for prescribing, in milligram morphine equivalents, and then measure their progress over time. Surveillance tools such as the Ontario Drug Policy Research Network's online map make it easy to assess the current burden of disease in specific regions.¹⁸ The interactive map color codes Ontario counties based on rates of opioid prescribing as well as by rates of opioid-related Emergency Department visits and hospital admissions. The tool is limited for measuring community-prescribed opioid loads, however, since prescribing rates are restricted to Ontario Drug Benefit eligible individuals and rates are not provided in milligram morphine equivalents. By quantifying the burden of disease and opioid load in individual communities over time, physicians and policymakers can implement local action that is proportionate to need.

It is reasonable to assume that with decreased prescription rates, there will be increased demand for addiction services. Alternatively, limiting the supply of prescription opioids may lead to an increased use of illegal substitutes such as heroin and illicit fentanyl. Physicians must therefore be aware of the services available in their communities to which at-risk patients can be referred. A comprehensive public health approach to the opioid epidemic must therefore include advocating for effective and affordable addiction services, alternate treatment options and harm reduction programs.

As with any other disease outbreak, a consistent and persistent strategy is needed to prevent further deaths. The magnitude of the opioid epidemic has been well-established, and the association between prescribing practices and opioid-related harms is clear. The community-prescribed opioid load has been proposed as an indicator by which we can monitor a reduction in harm. The intervention necessitates a commitment to ongoing prevention, harm reduction, surveillance and enforcement for public health control of this outbreak. All prescribers must work together on this safety initiative to reduce the burden opioids impose on their communities.

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REFERENCES

1. United Nations Office on Drugs and Crime: World Drug Report 2014. Available at: www.unodc.org/documents/wdr2014/World_drug_Report_2014_web.pdf. Accessed July 4, 2016.
2. Gomes T, Muhammad M, Paterson J, et al.: Trends in high-dose opiate prescribing in Canada: *Can Fam Physician*. 2014 Sept; 60(9): 826-832.
3. Kingston, Frontenac, Lennox & Addington Public Health Informatics: Ontario Coroner Opioid Death Slides. Available at: <http://www.kflapbi.ca/presentations/>. Accessed July 4, 2016.
4. Ballantyne JC, Sullivan MD: Intensity of Chronic Pain—The Wrong Metric? *N Engl J Med*. 2015; 272(22): 2098-2099.
5. Canadian Centre on Substance Abuse: Prescription Opioids. Available at: <http://www.ccsa.ca/Resource%20Library/CCSA-Canadian-Drug-Summary-Prescription-Opioids-2015-en.pdf>. Accessed July 4, 2016.
6. Boscarino JA, Rukstalis MR, Hoffman SN, et al.: Prevalence of prescription opioid-use disorder among chronic pain patients: comparison of the DSM-5 vs. DSM-4 diagnostic criteria: *J Addict Dis*. 2011; 20(3): 185-94.
7. Boscarino JA, Rukstalis MR, Hoffman SN, et al.: Risk factors for drug dependence among out-patients on opioid therapy in a large US health-care system: *Addiction*. 2010; 105(10): 1776-1782.
8. Volkow N, McLellan T.: Curtailing diversion and abuse of opioid analgesics without jeopardizing pain treatment: *J Am Med Assoc*. 2011; 305(13): 1346-1347.
9. Rudd RA, Aleshire N, Zibbell JE, et al.: Increases in Drug and Opioid Overdose Deaths—United States, 2000-2014: *Morbidity and Mortality Weekly Report*. 2016; 64(50): 1878-1882.
10. Dhalla IA, Mamdani MM, Sivilotti M, et al.: Prescribing of opioid analgesics and related mortality before and after the introduction of long-acting oxycodone: *Can Med Assoc J*. 2009; 181: 891-896.
11. Sproule B, Brands B, Li S, et al.: Changing patterns in opioid addiction: *Can Fam Physician*. 2009. Jan; 55: 68-69.e1-5.
12. Miller W, Powers K, Smith M, et al.: Community viral load as a measure for assessment of HIV treatment as prevention: *Lancet Infect Dis*. 2013 May; 13(5): 459-464.

13. Ministry of Health and Long Term Care. Ontario Health Insurance Plan. Available at: http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/4000/bul4675_questionsandanswers.aspx. Accessed: August 8, 2016.

14. College of Physicians and Surgeons of British Columbia. Professional Standards and Guidelines: Safe Prescribing of Drugs with Potential for Misuse/Abuse. Available from: <https://www.cpsbc.ca/files/pdf/PSG-Safe-Prescribing.pdf>. Accessed: August 8, 2016.

15. Kingston, Frontenac, Lennox & Addington Public Health Informatics: Ontario Consensus Guidelines on Opioid-Prescribing in Emergency Departments. Available from: <http://www.kflaphi.ca/prescription-guidelines/>. Accessed: August 8, 2016.

16. Ontario Association of Chiefs of Police. Patch4Patch Initiative: Fentanyl Abuse Prevention—A Shared Responsibility. Available from: <http://www.oacp.on.ca/Userfiles/Files/NewAndEvents/PublicResourceDocuments/Master%20Patch%204%20Patch-FINAL%202014.pdf>. Accessed: August 8, 2016.

17. Legislative Assembly of Ontario. Bill 33, Safeguarding our Communities Act (Patch for Patch Return Policy). Available from: http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&Intranet=&BillID=3059. Accessed: August 8, 2016.

18. Ontario Drug Policy Research Network. Opioid Prescribing and Opioid Related Hospital Visits in Ontario. Available from: <http://odprn.ca/research/research-reports/opioid-prescribing-and-hospital-visits/>. Accessed: August 8, 2016.



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