



Ontario College
of Pharmacists

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OPIOID DISPENSING IN ONTARIO: *2018 Snapshot*

November 2019

SUMMARY

Opioid-related harms continue to have a significant impact on communities throughout the province. As expressed in its [Opioid Strategy for Pharmacy](#) published in 2017, the Ontario College of Pharmacists believes that the profession of pharmacy can help with improving opioid-related care for patients, encouraging harm reduction, preventing overdose and addiction and ensuring quality oversight of the provision of narcotics and controlled substances. Ultimately, these activities will contribute to the overall goal of improving patient outcomes and reducing opioid-related hospitalizations and deaths.

Having access to data and information related to opioid dispensing patterns in regions across Ontario is an important step in better understanding what's happening and what can be done to help improve care for patients and reduce the risk of opioid-related harms. One important source of data that can be used to help support quality care is the Narcotics Monitoring System (NMS). The NMS, which is operated and managed by the Ministry of Health, captures data resulting from the dispensing of monitored drugs (prescribed narcotics and other controlled substances) in community pharmacies in Ontario.

In collaboration with the Health Analytics and Insights Branch at the Ministry of Health, the College has been provided with data analysis that offers an overview of selected opioid dispensing practices in each provincial Local Health Integration Network (LHIN)* as tracked in the NMS. The data analysis, performed by the Ministry of Health, specifically focuses on three areas, including:

- incidence of high-dose opioid prescriptions (new prescriptions for patients who did not receive an opioid in the previous six months);
- prevalence of high-dose opioid prescriptions; and
- opioid and benzodiazepine co-dispensing.

These areas of analysis were chosen because they are considered high-risk dispensing practices.

In publishing this data analysis snapshot, the College is seeking to better understand practice behaviours, with the primary goal of identifying areas for further teaching, coaching and collaborating with pharmacy professionals in preventing opioid-related harms. The College also recognizes that there is growing public, patient and health system stakeholder interest in understanding the role of pharmacy in helping to reduce the human and societal impact associated with the opioid crisis in our communities. Publicly reporting this information can help guide quality pharmacy care and do so openly and transparently so that the entire health system can better understand these patterns and contribute as appropriate to quality improvement activities.

Of equal importance is providing pharmacy professionals with information to help them evaluate and enhance their own practice as medication experts. Pharmacy professionals are strongly encouraged to assess their own dispensing practices, including reviewing the data analysis available, to look for opportunities to enhance the patient care they are providing.

It's important to note that the data analysis for a specific region does not represent a benchmark or standard for pharmacy practice. Rather, the value of the data analysis is in providing a way to measure the impact of shifts in pharmacy practice over time and place and identify opportunities for improvement. The key considerations highlighted in the next section provide initial areas of focus for pharmacy professionals who are exploring where there is an opportunity to contribute to enhanced patient and system outcomes.

KEY CONSIDERATIONS FOR PHARMACY PROFESSIONALS WHO ARE DISPENSING OPIOIDS

The data analysis is focused on three areas of opioid dispensing:

- Incidence of high-dose opioid prescriptions
- Prevalence of high-dose opioid prescriptions
- Opioid and benzodiazepine co-dispensing

*Throughout the data analysis, the term LHIN is used to describe specific regions. At the time of the data analysis, Local Health Integration Networks were geographically based organizations that planned, integrated and funded local health care. However, future reporting formats are subject to change as the structure of the provincial health system transforms and evolves over time.

This selection reflects the importance of examining the types of opioid prescriptions being dispensed, rather than just the total number of opioid prescriptions. The chosen areas of data analysis also focus specifically on more high-risk dispensing practices, including dispensing high-dose prescriptions to patients who have not had an opioid prescription for the previous six months, and co-dispensing opioids and benzodiazepines.

Research has shown that in Ontario, opioids are habitually prescribed to patients who would benefit equally from non-opioid therapy.¹ The risks and benefits of commencing opioid therapy should be provided to the patient to ensure he or she is an active participant in pain management. Additionally, high doses of opioids, where a low dose may suffice, are associated with increased risk of adverse events including emergency department visits or hospitalizations, substance use disorder, and even overdose deaths.²

In reflecting upon this data analysis, pharmacists should assess their own dispensing practices. For example, pharmacists that are dispensing opioids should consider the following:

- Pharmacists assess, within their scope, whether the prescribed opioid therapy is appropriate for the patient. This patient assessment should, as appropriate, address medical history and conditions, the type of pain and possible alternatives to opioids, appropriateness of the medication as prescribed (e.g. frequency, quantity, route), possible risks to the patient, monitoring parameters (e.g. adverse effects) and any other relevant and available information.

As with any decision requiring professional or clinical judgment, pharmacists should document the rationale for dispensing or not dispensing the prescription, as well as other relevant details such as plans for monitoring and follow up. This documentation should be readily retrievable for continuity of care.

- Pharmacists assess each opioid prescription to ensure that it is started at the lowest dosage necessary for that patient. Pharmacists should collaborate with prescribers and suggest alternative medications or dosages when appropriate due to the risks associated with the use of high dose opioids. According to [the HOO Quality Standard for Chronic Pain](#), if an opioid is initiated, the trial should commence at the lowest effective dose (preferably less than 50 mg morphine equivalents (MME) per day). If, after collaboration with the prescriber and the patient, the pharmacist determines that the high dosage is appropriate, a follow-up plan should be established with the patient with tapering opportunities presented when appropriate.
- If the opioid prescribed is indicated for acute pain, patients should also be provided information on the characteristics of acute pain, including its self-limiting nature, and expected duration. Pharmacists play a critical role in providing this information to patients, and assessing prescriptions for appropriateness prior to dispensing.
- Despite numerous guidelines contraindicating concurrent use of opioids and benzodiazepines, these classes of medications are often co-prescribed.³ Pharmacists are expected to assess situations within which opioids and benzodiazepines are co-prescribed, and investigate the rationale for their concurrent use. Collaboration with patients and prescribers is critical to ensure potential adverse events such as respiratory depression are identified and prevented where possible.

Data provided by the Ministry has been organized to illustrate regional variations within the province. Pharmacists are encouraged to use the provincial data provided and any other data they have access to (i.e. trends identified regionally, tracking in their organization) to assess their own practice.

In all circumstances that involve the dispensing of opioids, pharmacists should be open and willing to work with patients, their caregivers, if appropriate, and prescribers to achieve the best possible health outcome for the patient.

Pharmacists are encouraged to review the Opioid Dispensing in Ontario: Pharmacy Professional Resource as well as make use of the tools available on the College's website:

- [Opioid Practice Tool](#)
- [Opioid Policy](#)
- [External Resources on Opioids](#)
- [Guidance for Pharmacy Professionals Who Are Dispensing or Selling Naloxone](#)

1. [Opioid Prescribing for Acute Pain](#). Health Quality Ontario.

2. <https://www.sciencedirect.com/science/article/pii/S0197457218302015>

3. <https://www.sciencedirect.com/science/article/pii/S0197457218302015>

OPIOID DISPENSING IN ONTARIO: DATA ANALYSIS

Source of the Data Analysis

The data analysis presented here has been sourced from the NMS and reflects various data points between 2013 and 2018. The NMS, which is operated and managed by the Ministry of Health, captures data resulting from the dispensing of monitored drugs (prescribed narcotics and other controlled substances) in community pharmacies in Ontario regardless of payment type (e.g. Ontario Drug Benefit plan, private insurance).

This data analysis has been made available through collaboration with the Health Analytics and Insights Branch at the Ministry of Health which conducted the analysis before sharing the aggregate, de-identified data analysis with the College. The data analysis provided to the College by the Ministry **does not identify specific pharmacies, pharmacy professionals or patients**.

Additionally, the College has consulted with experts at other organizations who have experience working with NMS data, including the Institute for Clinical Evaluative Sciences (ICES), the Ontario Drug Policy Research Network (ODPRN) and Health Quality Ontario (HQO).

Other organizations have also used data, including from the NMS, to inform improvements in opioid prescribing practices. ODPRN's [Ontario Prescription Opioid Tool](#) allows access to indicators of opioid prescribing in Ontario from 2012. Public Health Ontario has an [Interactive Opioid Tool](#) which reflects opioid-related morbidity and mortality data such as hospital admissions, emergency department visits and deaths.

Detailed technical notes about the analysis are [available here](#).

Data Analysis

The following charts provide a detailed look at the data analysis on opioid dispensing in community pharmacy.

Opioids include a number of different drugs with different formulations that vary on a chemical level.⁴ In order to compare opioid drugs, a standardized measure is needed. **Milligrams of morphine equivalents (MME)** is a standardized measure of the total amount of opioid dispensed on a single prescription.^{4,5}

The [HQO Opioid Prescribing for Chronic Pain Quality Standards](#) notes that opioid trials should be initiated below 50 MME per day and raising the dose to under 90 MME per day may only be warranted in selected cases.⁶ Doses of 90 MME per day and higher are considered high-dose, with the likelihood of unintentional non-fatal overdose or death increasing.⁷

Throughout the data analysis, the term LHIN is used to describe specific regions. At the time of the data analysis, Local Health Integration Networks were geographically based organizations that planned, integrated and funded local health care. However, future reporting formats are subject to change as the structure of the provincial health system transforms and evolves over time. For the purpose of this snapshot, a list of LHINs, and information about their boundaries, is [available here](#).

Incidence of High-Dose Opioid Prescriptions

The following tables share the percentage of individuals newly dispensed opioids (i.e. were not dispensed an opioid in the past six months) who were **dispensed at least one opioid at a dose greater than 50 MME/day and a dose greater than 90 MME/day**.

The percentage of patients who were dispensed a high-dose (and who previously were not receiving an opioid prescription) is also an identified indicator within the [College's Quality Indicators](#) for Pharmacy. These indicators, which will be publicly reported, will provide the public with a clearer picture of the overall quality of pharmacy care in Ontario and support the ongoing efforts of pharmacy professionals to implement quality improvement efforts in their practice.

4. [Ontario Prescription Opioid Tool: Technical Appendix](#). Ontario Drug Policy Research Network.

5. It's important to note that the MME for a particular drug may not match the total milligrams of a particular drug and dose. Any concern that a patient may have with their drug and dosing should be discussed with their pharmacist or physician.

6. [Opioid Prescribing for Chronic Pain](#). Health Quality Ontario.

7. [2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain](#). National Pain Center.

Individuals newly dispensed a high-dose opioid prescription, out of total new opioid recipients, in 2018 by LHIN

LHIN name	>90MME/day	>50MME/day
Erie St. Clair	2.4%	15.6%
South West	2.2%	14.8%
Waterloo Wellington	3.0%	21.7%
Hamilton Niagara Haldimand Brant	2.2%	15.6%
Central West	2.0%	13.7%
Mississauga Halton	1.7%	14.8%
Toronto Central	3.7%	18.8%
Central	1.9%	14.0%
Central East	2.6%	17.6%
South East	3.5%	18.3%
Champlain	3.2%	14.9%
North Simcoe Muskoka	2.9%	18.7%
North East	4.1%	17.7%
North West	1.4%	12.3%
Ontario	2.6%	16.2%

Individuals newly dispensed a high-dose opioid prescription >50MME/day, out of total new opioid recipients, by LHIN

LHIN name	2014	2015	2016	2017	2018	Trends
Erie St. Clair	19.8%	19.4%	18.1%	17.0%	15.6%	
South West	20.1%	19.9%	18.0%	15.8%	14.8%	
Waterloo Wellington	23.0%	22.8%	22.8%	22.1%	21.7%	
Hamilton Niagara Haldimand Brant	17.1%	17.6%	17.2%	15.9%	15.6%	
Central West	16.9%	16.5%	15.9%	14.8%	13.7%	
Mississauga Halton	19.1%	19.1%	18.4%	16.5%	14.8%	
Toronto Central	23.8%	23.9%	23.3%	21.1%	18.8%	
Central	17.6%	17.9%	17.0%	16.0%	14.0%	
Central East	19.4%	19.9%	19.7%	18.6%	17.6%	
South East	22.6%	22.5%	21.5%	19.7%	18.3%	
Champlain	19.4%	18.7%	18.0%	16.2%	14.9%	
North Simcoe Muskoka	19.6%	19.9%	20.3%	19.7%	18.7%	
North East	18.9%	19.1%	18.6%	18.0%	17.7%	
North West	14.9%	15.1%	14.2%	12.7%	12.3%	
Ontario	19.5%	19.5%	18.9%	17.5%	16.2%	

Individuals newly dispensed a high-dose opioid prescription >90MME/day, out of total new opioid recipients, by

LHIN name	LHIN					Trends
	2014	2015	2016	2017	2018	
Erie St. Clair	2.8%	2.9%	2.7%	2.7%	2.4%	
South West	3.0%	2.7%	2.5%	2.6%	2.2%	
Waterloo Wellington	3.0%	2.9%	3.0%	3.0%	3.0%	
Hamilton Niagara Haldimand Brant	2.2%	2.3%	2.2%	2.1%	2.2%	
Central West	2.0%	1.9%	2.2%	2.1%	2.0%	
Mississauga Halton	1.8%	1.9%	1.9%	1.8%	1.7%	
Toronto Central	3.4%	4.0%	4.2%	4.2%	3.7%	
Central	2.2%	2.2%	2.1%	2.1%	1.9%	
Central East	2.7%	2.8%	2.8%	2.7%	2.6%	
South East	3.7%	4.1%	3.9%	3.7%	3.5%	
Champlain	4.1%	4.0%	3.8%	3.4%	3.2%	
North Simcoe Muskoka	2.5%	2.8%	2.9%	3.0%	2.9%	
North East	3.3%	3.7%	3.7%	3.9%	4.1%	
North West	1.7%	1.9%	1.7%	1.5%	1.4%	
Ontario	2.7%	2.8%	2.8%	2.8%	2.6%	

Note: The trend lines are based on unrounded values; however, for simplicity the values in the tables have been rounded to the nearest tenth of a percent. Thus, some trend lines might indicate slight movements/changes while their respective table values stay constant.

Prevalence of High-Dose Opioid Prescriptions

The following tables share the percentage of individuals who were dispensed at least one opioid at a dose greater than 50 MME/day and a dose greater than 90 MME/day out of total opioid recipients.

Individuals dispensed a high-dose opioid prescription, out of total opioid recipients, in 2018 by LHIN

LHIN name	>90MME/day	>50MME/day
Erie St. Clair	6.7%	23.7%
South West	7.6%	24.6%
Waterloo Wellington	7.5%	29.6%
Hamilton Niagara Haldimand Brant	7.0%	24.5%
Central West	4.7%	19.7%
Mississauga Halton	4.6%	21.1%
Toronto Central	7.0%	24.4%
Central	5.0%	20.2%
Central East	6.6%	25.1%
South East	8.8%	28.2%
Champlain	7.5%	23.4%
North Simcoe Muskoka	7.3%	27.1%
North East	8.7%	26.0%
North West	6.4%	21.7%
Ontario	6.7%	24.1%

Individuals dispensed a high-dose opioid prescription >50MME/day, out of total opioid recipients, by LHIN

LHIN name	2013	2014	2015	2016	2017	2018	Trends
Erie St. Clair	30.0%	29.9%	29.1%	27.4%	25.7%	23.7%	
South West	32.7%	31.5%	31.0%	28.8%	26.0%	24.6%	
Waterloo Wellington	32.8%	32.3%	31.9%	31.8%	30.3%	29.6%	
Hamilton Niagara Haldimand Brant	27.9%	27.9%	28.1%	27.4%	25.6%	24.5%	
Central West	23.3%	23.9%	23.2%	22.6%	20.9%	19.7%	
Mississauga Halton	26.3%	26.3%	26.1%	25.2%	22.9%	21.1%	
Toronto Central	29.0%	29.6%	29.7%	28.9%	26.7%	24.4%	
Central	24.0%	24.3%	24.6%	23.6%	22.3%	20.2%	
Central East	28.8%	28.3%	28.7%	28.1%	26.4%	25.1%	
South East	35.6%	34.6%	34.3%	33.1%	30.2%	28.2%	
Champlain	30.2%	28.9%	28.4%	27.4%	25.3%	23.4%	
North Simcoe Muskoka	30.6%	30.0%	29.8%	29.9%	28.5%	27.1%	
North East	28.2%	28.7%	28.7%	27.8%	26.7%	26.0%	
North West	27.4%	25.7%	25.6%	24.4%	22.4%	21.7%	
Ontario	28.9%	28.6%	28.5%	27.6%	25.7%	24.1%	

Individuals dispensed a high-dose opioid prescription >90MME/day, out of total opioid recipients, by LHIN

LHIN name	2013	2014	2015	2016	2017	2018	Trends
Erie St. Clair	9.5%	9.2%	8.8%	8.2%	7.6%	6.7%	
South West	11.1%	10.5%	10.0%	9.2%	8.6%	7.6%	
Waterloo Wellington	8.5%	8.3%	8.2%	8.1%	7.8%	7.5%	
Hamilton Niagara Haldimand Brant	8.7%	8.6%	8.5%	8.2%	7.6%	7.0%	
Central West	5.3%	5.5%	5.4%	5.5%	5.0%	4.7%	
Mississauga Halton	5.4%	5.7%	5.6%	5.5%	5.0%	4.6%	
Toronto Central	6.9%	7.2%	7.8%	7.9%	7.6%	7.0%	
Central	5.9%	6.0%	5.9%	5.6%	5.5%	5.0%	
Central East	7.9%	8.0%	7.9%	7.6%	7.2%	6.6%	
South East	11.7%	11.3%	11.5%	10.9%	9.7%	8.8%	
Champlain	10.0%	9.8%	9.5%	9.1%	8.1%	7.5%	
North Simcoe Muskoka	9.0%	8.4%	8.5%	8.3%	8.0%	7.3%	
North East	9.8%	9.9%	10.0%	9.6%	9.1%	8.7%	
North West	8.3%	8.1%	8.0%	7.4%	6.8%	6.4%	
Ontario	8.2%	8.2%	8.1%	7.8%	7.3%	6.7%	

Opioid and Benzodiazepine Co-Dispensing

The following table shares the percentage of opioid recipients who were co-dispensed benzodiazepines out of total opioid recipients.

Opioid recipients co-dispensed benzodiazepines, by LHIN							
LHIN name	2013	2014	2015	2016	2017	2018	Trends
Erie St. Clair	21.2%	20.7%	19.9%	19.7%	18.5%	20.0%	
South West	21.2%	20.6%	20.1%	19.8%	18.3%	17.8%	
Waterloo Wellington	20.3%	20.6%	20.1%	20.1%	18.9%	16.7%	
Hamilton Niagara Haldimand Brant	21.2%	20.7%	20.3%	19.5%	18.3%	21.6%	
Central West	20.4%	20.2%	20.5%	20.0%	18.7%	15.6%	
Mississauga Halton	20.3%	20.7%	20.5%	20.0%	18.4%	18.1%	
Toronto Central	21.4%	21.0%	20.3%	19.4%	17.8%	18.4%	
Central	20.9%	20.5%	20.1%	19.7%	18.8%	17.2%	
Central East	20.7%	20.7%	20.5%	19.7%	18.5%	18.0%	
South East	21.1%	21.0%	20.6%	19.5%	17.8%	18.0%	
Champlain	20.5%	20.4%	20.4%	20.0%	18.7%	16.6%	
North Simcoe Muskoka	20.4%	20.7%	20.6%	19.8%	18.6%	19.9%	
North East	20.7%	20.6%	20.3%	19.8%	18.5%	21.5%	
North West	21.2%	20.5%	20.3%	19.8%	18.2%	15.5%	
Ontario	20.9%	20.6%	20.3%	19.7%	18.5%	18.4%	

ABOUT THE COLLEGE AND OUR OPIOID STRATEGY

The Ontario College of Pharmacists is the registering and regulating body for the profession of pharmacy in Ontario. The College's mandate is to serve and protect the public and hold Ontario's pharmacists and pharmacy technicians accountable to the established legislation, standards of practice, code of ethics and policies and guidelines relevant to pharmacy practice. The College also oversees the province's community and hospital pharmacies and assesses them against prescribed standards of operation.

In 2017, the College released an [Opioid Strategy for Pharmacy](#), which, among other things, places a focus on advancing opioid-related education for pharmacy professionals, improving harm reduction strategies, preventing overdose and addiction by supporting appropriate dispensing practices, and strengthening the oversight of the provision of these drugs to patients.

These priorities are supported by five strategic areas of focus

1. Identifying, developing and communicating practice tools and resources
2. Optimizing scope of practice for pharmacy professionals
3. Applying best practices and guidelines supported by evidence
4. Using data to inform activities
5. Building collaborative relationships with relevant healthcare partners

The College recognizes that collaborative efforts and strategies are required to reduce the impact of opioid-related harms on our communities and is committed to aligning with national and provincial opioid-related goals.

NEXT STEPS

The goal for this Opioid Dispensing in Ontario snapshot is to identify opportunities, through greater awareness of patterns made possible through analyzed data, to influence quality improvement and safe pharmacy practice and to ultimately enhance system and patient outcomes.

The NMS data analysis in this report is focused on data from 2013 to 2018. The College anticipates that it will provide updated data for the most recent year on an annual basis. While this snapshot presents the data analysis by LHIN, future reporting opportunities may reflect different geographic boundaries as the structure of the provincial health system transforms and evolves.

Over time, the data analysis will provide an overview of the impact of the various activities and strategies being undertaken by pharmacy, and the larger healthcare system, on opioid dispensing. While other organizations have released data or measured changes in behaviour in relation to opioids, the data analysis included in this snapshot specifically addresses community pharmacy. It is anticipated that greater awareness of the data and opioid dispensing trends by pharmacy professionals will lead to improved practice and better patient health outcomes.

The College will continue to look for opportunities to provide learnings and resources for pharmacy professionals that reflect the findings/needs identified through the data analysis. Feedback from pharmacy professionals, stakeholders and patients will also be taken into account when looking at future reporting opportunities.

The release of the NMS data analysis on opioid dispensing is only one element of the College's work to improve opioid-related care for patients. As part of our [Opioid Strategy](#), we have also focused on providing updated guidance to pharmacy professionals, collaborating with relevant stakeholders to identify educational opportunities and resources, monitoring and enforcing the security of opioid distribution and looking for opportunities to work towards harm reduction. Recognizing that patients may be experiencing ongoing harm as a result of the use of opioids, this work will continue to be a focus of the College moving forward.

The College also recognizes that while this snapshot focuses on the opportunities for pharmacy professionals to enhance their practice, the dispensing of opioids also involves other healthcare professionals and various system factors. As expressed in our Opioid Strategy, and through other College projects and activities, the College will continue to seek out opportunities for conversation and collaboration with the many organizations and healthcare professionals who are also committed to preventing patients from experiencing opioid-related harms.