

# Quality Standards

## Opioid Prescribing for Chronic Pain

### Measurement Guide

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**Health Quality  
Ontario**

*Let's make our health system healthier*



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Health Quality Ontario

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# 1 How to Use the Measurement Guide

This document is meant to serve as a measurement guide to support the adoption of the Opioid Prescribing for Chronic Pain quality standard. Opioid prescribing for chronic pain is a critical issue and there are significant gaps and/or variations in the quality of care that people receive in Ontario. Recognizing this, Health Quality Ontario released this Quality Standard as a means to identify opportunities that have a high potential for quality improvement.

This guide is intended for use by those looking to adopt the Quality standard, including health care professionals working in regional or local roles.

This guide has dedicated sections for each of the two types of measurement within the quality standard:

- **Local measurement:** what you can do to assess the quality of care that you provide locally
- **Provincial measurement:** how we can measure the success of the quality standard on a provincial level

## Important Resources for Quality Standard Adoption

Health Quality Ontario has created resources to assist with the adoption of quality standards:

- A [Getting Started Guide](#) that outlines a process for using quality standards as a resource to deliver high-quality care. It includes links to templates, tools, and stories and advice from health care professionals, patients, and caregivers. You can use this guide to learn about evidence-based approaches to implementing changes to practice
- A [Quality Improvement Guide](#) to give health care teams and organizations in Ontario easy access to well-established quality improvement tools. The guide provides examples of how to adapt and apply these tools to our Ontario health care environments
- An online community called [Quorum](#) that is dedicated to working together to improve the quality of health care across Ontario. Quorum can support your quality improvement efforts

## 2 Quality Indicators in Quality Standards

Quality standards inform providers and patients about what high-quality health care looks like for aspects of care that have been deemed a priority for quality improvement in the province. They are intended to guide quality improvement, monitoring, and evaluation.

Measurability is a key principle in developing and describing the quality statements; each statement is accompanied by one or more indicators. This section describes the measurement principles behind the quality indicators, the process for developing these indicators, and the technical definitions of the indicators.

An effective quality statement must be measurable. Measurement is necessary to demonstrate if a quality statement has been properly implemented, and if it is improving care for patients. This is a key part of the [Plan-Do-Study-Act](#) improvement cycle. If measurement shows there has been no improvement, you need to consider a change or try something different.

### 2.1 Measurement Principles

Health Quality Ontario uses the process, structure, and outcome indicator framework developed by [Donabedian](#) in 1966 to develop indicators for quality standards. The three indicator types play essential and interrelated roles in measuring the quality of health care and the impact of introducing and using quality standards.

The indicators provided are suggestions intended to support quality improvement efforts. It is not expected that every provider, team, or organization will be able to measure all of them (or even want to measure all of them), but using these materials as a reference, they will have the ability to identify which indicators best capture areas of improvement for their care and what can be measured given existing local data sources.

### 2.2 Process Indicators

Process indicators assess the activities involved in providing care. They measure the percentage of individuals, episodes, or encounters for which an activity (process) is performed. In most cases, the numerator should specify a timeframe in which the action is to be performed, established using evidence or expert consensus. When a quality statement applies to a subset of individuals rather than the total population, the denominator should reflect the population of the appropriate subgroup, rather than the entire Ontario population. If exclusions are required or stratifications are suggested, for example to assess the equitable delivery of care, these are reflected in the indicator specifications.

Process indicators are central to assessing whether or not the quality statement has been followed; nearly all quality statements are associated with one or more process indicators. In most cases, the numerator and denominator for process indicators can be derived from the language of the quality statement itself; additional parameters (such as a timeframe) may also appear in the definitions section.

While most quality statements should focus on a single concept and be linked with a single process indicator, some statements may include two or more closely related concepts. In these cases, multiple process indicators may be considered to capture all aspects of the quality statement. For example, a quality statement may suggest the need for a comprehensive

assessment with several components and there may be a process indicator for each of those components.

Examples of process indicators include the percentage of patients with hip fracture who receive surgery within 48 hours, or the percentage of patients with schizophrenia who are offered clozapine after first- and second-line antipsychotics have been ineffective. Please refer to the published [quality standards](#) for more examples.

### 2.3 Structural Indicators

Structural indicators assess the structures and resources that influence and enable delivery of care. These can include equipment; systems of care; availability of resources; and teams, programs, policies, protocols, licences, or certifications. Structural indicators assess whether factors are in place that are known to be important for achieving the quality statement.

Some quality statements have structural indicators associated with them. Structural indicators are binary or categorical and do not require the definition of a numerator and denominator. However, in some cases it may be useful to specify a denominator defining an organizational unit, such as a hospital, a primary care practice, or a local region. In many cases data to measure structural indicators are not readily available using existing administrative data, so local data collection may be required. This local data collection may require regional or provincial level data collection systems to be developed.

Structural indicators should be defined for a quality statement or for the quality standard as a whole when there is strong evidence that a particular resource, capacity, or characteristic is important for enabling the effective delivery of care. It should be theoretically feasible for these structural elements to be implemented across Ontario, even if adoption is aspirational in some cases. In rare instances, a quality statement may have two or more associated structural indicators, if the quality standard advisory committee decides that multiple factors are crucial to the delivery of the quality statement.

Examples of structural indicators include the availability of a stroke unit, the existence of discharge planning protocols, or access to a specialized behavioural support team. Please refer to the published [quality standards](#) for more examples.

### 2.4 Outcome Indicators

Outcome indicators assess the end results of the care provided. They are crucial and are arguably the most meaningful measures to collect, but many health outcomes—such as mortality or unplanned hospital readmissions—are often the product of a variety of interrelated factors and cannot be reliably attributed to a single process of care. For this reason, although relatively few quality statements are directly linked to an outcome indicator, a set of overall measures, including key outcome indicators, is defined for the quality standard as a whole and reflects the combined effect of all of the quality statements in the quality standard. Similar to process indicators, outcome indicators should be specified using a defined denominator and a numerator that, in most cases, should include a clear timeframe. In some cases, a proxy indicator is provided that indirectly measures the outcome of interest. Proxy indicators are only used when the actual indicator is not measurable using currently available data.

Examples of outcome indicators include mortality rates, improvement (or decline) in function, and patients' experience of care. Please refer to the published [quality standards](#) for more examples.

## 2.5 Balancing Measures

Balancing measures assess if there are important unintended adverse consequences of a change in process to other parts of the system. Examples include staff satisfaction and workload. Balance measures will be embedded throughout the standard and while they are not the focus of the standard, the intention is to monitor the unintended consequences of changes in care.

## 3 Local Measurement

As part of the Opioid Prescribing for Chronic Pain Quality Standard, *specific* measures were identified for each of the statements to support measurement for quality improvement.

As an early step in your project, we suggest that your team complete an *initial assessment* of the relevant measures in the standard and come up with a draft measurement plan.

Here are some concrete next steps:

1. Review the list of identified measures (in the quality standard) and determine which measures you will use as part of your adoption planning based on your knowledge of current gaps in care.
2. Determine the availability of data related to the measures you have chosen.
3. Identify the means to collect data related to your chosen measures on a local basis.
4. Develop a draft measurement plan.

The earlier you complete the above steps, the more successful your quality improvement project is likely to be.

### 3.1 Local Data Collection

Local data collection refers to data collection at the health provider or team level for indicators that cannot be assessed using provincial administrative databases (such as databases held by the Institute for Clinical Evaluative Sciences or the Canadian Institute for Health Information). Examples include data from electronic medical records, clinical patient records, regional data collection systems or locally-administered patient surveys. Indicators that require local data collection may signal an opportunity for local measurement, data advocacy or improvement.

Local data collection has many strengths: it is timely, can be tailored to quality improvement initiatives and may be easily modifiable based on currently available data. However, when comparing indicators that use locally collected data between providers it is critical to ensure consistency in data collection, definitions, calculation and validity across patient groups.

### 3.2 Measurement Principles for Local Data Collection

Three types of data can be used to construct measures in quality improvement: continuous, classification, and count data.

#### 3.2.1 Continuous Data

Continuous data can take any numerical value in a range of possible values. These values can refer to a dimension, a physical attribute, or a calculated number. Examples include patient weight, number of calendar days, and temperature.

#### 3.2.2 Classification Data

Classification (or categorical) data are recorded in two or more categories or classes. Examples include sex, race or ethnicity, and number of patients with depression versus number of patients without depression. In some cases, you might choose to convert continuous data into categories. For example, you could classify patient weight as underweight, normal weight, overweight, or obese.

Classification data are often presented as percentages. To calculate a percentage from classification data, you need a numerator and a denominator (a percentage is calculated by dividing the numerator by the denominator and multiplying by 100). The numerator includes the number of observations meeting the criteria (e.g., number of patients with depression), and the denominator includes the total number of observations measured (e.g., total number of patients in clinic). Note that the observations in the numerator must also be included in the denominator (source population).

Examples of measures that use classification data include percentage of patients with a family physician and percentage of patients who receive therapy.

### 3.2.3 Count Data

Count data often focus on attributes that are unusual or undesirable. Examples include number of falls in a long-term care home and number of medication errors.

Count data are often presented as a rate, such as the number of events per 100 patient-days or per 1,000 doses. The numerator of a rate counts the number of events/nonconformities, and the denominator counts the number of opportunities for an event. It is possible for the event to occur more than once per opportunity (e.g., a long-term care resident could fall more than once).

*Rate of 30-day hospital readmission =*

$$\frac{\text{Number of hospital readmissions within 30 days of discharge [numerator]}}{\text{Number of discharges from hospital [denominator]}}$$

### 3.2.4 Benefits of Continuous Data

It is common practice in healthcare to measure towards a target instead of reporting continuous measures in their original form. An example would be measuring the number of patients who saw their primary care physician within 7 days of hospital discharge instead of measuring the number of days between hospital discharge and an appointment with a primary care physician. Targets should be evidence-based or based on a high degree of consensus across clinicians.

When a choice exists, continuous data may be more useful for learning about the impact of changes tested than count or classification data. Measures based on continuous data are more responsive and can capture smaller changes which will make it easier and faster to see improvements than those based on count or classification data. This is especially true when the average value for the continuous measure is far away from the target. Continuous data will also be more sensitive to changes. For example, while you may not increase the number of people who are seen within seven days, you may reduce the average time that people are waiting.

## 3.3 Benchmarks and Targets

Benchmarks are markers of excellence to which organizations can aspire. Benchmarks should be evidence-based or based on a high degree of consensus across clinicians. At this time, Health Quality Ontario (HQO) does not develop benchmarks for quality standards indicators specifically. Users of these standards have variable practices, resources and patient populations, so one benchmark may not be practical for the entire province.

Targets are goals for care that are often developed based on the local care environment. Providers, teams and organizations are free to and encouraged to develop their own targets

based on their patient populations and their quality improvement work. Organizations that include a quality standard indicator in their Quality Improvement Plans are requested to use a target that reflects improvement. Timeframe targets, like the number of people seen within seven days, are typically provided with process indicators. These are intended to guide quality improvement.

In many cases, achieving 100% on an indicator will not be possible. This is why it is important to track these indicators over time, and potentially compare performance to that of colleagues, to set targets, track progress and to aim for successful implementation of the standard.

For guidance on setting benchmarks and targets at a local level, refer to:

- [Approaches to Setting Targets for Quality Improvement Plans](#)
- [Long-Term Care Benchmarking Resource Guide](#)

## 4 Provincial Measurement

In its quality standards, Health Quality Ontario strives to incorporate measurement that is standardized, reliable, and comparable across providers to assess the impact of the standards provincially. Where possible, indicators should be measurable using province-wide data sources. However, in many instances provincially collected data are unavailable for indicator measurement. In these cases, the source is described as local data collection.

For more information on the data sources referenced in this standard, please see the **appendix**.

### 4.1 Accessing Provincially Measurable Data

Provincial platforms are available to create custom analyses to help you calculate results for identified measures of success. Examples of these platforms include IntelliHealth, eReports, and Query.

#### 4.1.1 *IntelliHealth—Ministry of Health and Long Term Care*

[“IntelliHealth](#) is a knowledge repository that contains clinical and administrative data collected from various sectors of the Ontario healthcare system. IntelliHealth enables users to create queries and run reports through easy web-based access to high quality, well organized, integrated data.”

#### 4.1.2 *eReports—Canadian Institute for Health Information*

[Quick Reports](#) offer at-a-glance comparisons for the organizations you choose. The tool also provides some ways to manipulate the pre-formatted look and feel of the reports. Flexible or Organization Reports offer you many choices to compare your organization’s data with those of other organizations. With these customizable reports, you can view data by different attributes and for multiple organizations.

Both report types allow trending over time and provide a comparison of organizations with regions, provinces or territories, or the entire database.

#### 4.1.3 *Query—Public Health Ontario*

[“Query](#) is a dynamic tool that allows public health professionals to instantly explore, manipulate and analyze health data using pre-defined reports and variables.” Query tools are available for reportable infectious disease data (ID Query) and health care-associated infection data (HAI Query).

## 5 How Success Can Be Measured for This Quality Standard

This measurement guide accompanies Health Quality Ontario's Opioid Prescribing for Chronic Pain quality standard. Early in the development of each quality standard, a small number of performance indicators are chosen to measure the success of the entire standard. These indicators guide the development of the quality standard so that every statement within the standard aids in achieving the standard's overall goals. This appendix includes information on the definitions and technical details of the overall measure of success listed below, including data sources for indicators that can be consistently measured across providers, across the sectors of health care, and across the province. For more information on the statement-specific indicators, please refer to the quality standard.

List of indicators:

- Rate of opioid-related deaths
- Urgent hospital use:
  - Rate of opioid-related emergency department visits
  - Rate of opioid-related hospital admissions
- Prescribing:
  - Rate of people prescribed opioid therapy (proxy measure)
  - Rate of opioid prescriptions dispensed (proxy measure)
- Percentage of people with chronic pain with improved quality of life
- Percentage of people with chronic pain with improved functional outcomes
- Percentage of people with chronic pain who experience reduced pain
- Percentage of people who are prescribed opioids for chronic pain and subsequently develop opioid use disorder

Indicators are categorized as:

- Provincially measurable (the indicator is well defined and validated); or
- Locally measurable (the indicator is not well defined, and data sources do not currently exist to measure it consistently across providers and at the system level).

### 5.1 Quality Standard Scope

This quality standard provides guidance on the prescribing, monitoring, and tapering of opioids to treat chronic pain for people 15 years of age and older in all care settings. It does not address opioid prescribing for acute pain or end-of-life care, nor does it address the management of opioid use disorder in depth. Please refer to Health Quality Ontario's *Opioid Prescribing for Acute Pain* quality standard and *Opioid Use Disorder* quality standard for detailed quality statements related to these topics.

While the scope of this quality standard includes adolescents between 15 and 17 years of age, it should be noted that the statements in this standard are based on guidelines whose evidence is derived primarily from studies conducted on adult (aged 18 years and older) populations. Health Quality Ontario's Opioid Prescribing for Chronic Pain Quality Standard Advisory

Committee members agreed that the guidance in this quality standard is equally relevant and applicable to people between 15 and 17 years of age. However, health care professionals should take into account that specialized skills and expertise may be required when providing treatment for special populations, including adolescents with chronic pain for whom opioid therapy has been prescribed or is being considered. If treatment of this or other special populations is beyond a health care professional's expertise, the health care professional should consult or work with a health care professional with appropriate expertise.

The Opioid Prescribing for Chronic Pain Quality Standard Advisory Committee agreed that it is important to include adolescents between 15 and 17 years of age in the scope of this quality standard because of the increased risk of harm opioids pose to this population. Adolescents report higher rates of nonmedical opioid use<sup>1</sup> and intentional poisonings,<sup>2</sup> and suffer a disproportionately higher rate of opioid-related deaths than the general adult population.<sup>3</sup> These higher rates of harm stress the importance of providing guidance on the careful and appropriate prescribing of opioids for chronic pain in youth.

This quality standard includes 10 quality statements addressing areas identified by Health Quality Ontario's Opioid Prescribing for Chronic Pain Quality Standard Advisory Committee as having high potential for improving the quality of care in Ontario for people with chronic pain who have been prescribed or are considering opioids.

In this quality standard, the term *patient* includes community care clients and residents of long-term care homes.

## 5.2 Cohort Identification

Local data collection is required to identify patients with Chronic Pain.

## 5.3 How Success Can Be Measured Provincially

The Opioid Prescribing for Chronic Pain Quality Standard Advisory Committee identified a small number of overarching goals for this Quality Standard. These have been mapped to indicators that may be used to assess quality of care provincially. The following 6 indicators are currently measurable in Ontario's health care system:

- Rate of opioid-related deaths
- Urgent hospital use:
  - Rate of opioid-related emergency department visits
  - Rate of opioid-related hospital admissions
- Prescribing:
  - Population rate of people prescribed opioid therapy (proxy measure)
  - Population rate of opioid prescriptions dispensed (proxy measure)

Methodologic details are described in the tables below.

Table 1: Rate of Opioid-Related Deaths

GENERAL DESCRIPTION	Indicator description	Name: Population rate of opioid-related deaths Directionality: A lower rate is better
	<b>Measurability</b>	<b>Measurable at the provincial level</b>
	Dimensions of quality	Safe
	Quality statement alignment	All quality standard statements align
DEFINITION & SOURCE INFORMATION	Calculation: general	<p><b>Denominator</b> Total population</p> <p><b>Numerator</b> Number of deaths for opioid poisoning</p> <p><i>Inclusions</i> All deaths where opioid poisoning was considered as contributing to the cause of death</p> <p>ICD-10-CA codes T40.0 (poisoning by opium), T40.1 (poisoning by heroin), T40.2 (poisoning by other opioids), T40.3 (poisoning by methadone), T40.4 (poisoning by other synthetic narcotics), T40.6 (poisoning by other and unspecified narcotics)</p> <p><b>Method</b> Numerator/denominator × 100,000</p> <p><b>Data source:</b> Ontario Opioid-Related Death database, OCCO, data provided by: Public Health Ontario at <a href="https://www.publichealthontario.ca/en/dataandanalytics/pages/opioid.aspx">https://www.publichealthontario.ca/en/dataandanalytics/pages/opioid.aspx</a></p>
ADDITIONAL INFORMATION	Limitations	<ul style="list-style-type: none"> <li>• Underreporting of deaths caused by opioid poisoning</li> <li>• OCCO data are not stratified by deaths involving illicit vs prescribed opioids</li> </ul>
	Comments	<ul style="list-style-type: none"> <li>• Some deaths are attributed to multi-drug toxicity</li> <li>• Tracked provincially and reported in a timely way by Public Health Ontario</li> </ul>

Abbreviations: ICD-10-CA, International Statistical Classification of Diseases, 10<sup>th</sup> edition, Canada; OCCO, Office of the Chief Coroner for Ontario.

Table 2: Rate of Emergency Department Visits

GENERAL DESCRIPTION	Indicator description	Name: Rate of ED visits Directionality: A lower rate is better
	<b>Measurability</b>	<b>Measurable at the provincial level</b>
	Dimensions of quality	Safe
	Quality statement alignment	All quality standard statements align
DEFINITION & SOURCE INFORMATION	Calculation: general	<p><b>Denominator</b> Total population</p> <p><b>Numerator</b> Number of ED visits for opioid poisonings</p> <p><i>Inclusions</i></p> <ul style="list-style-type: none"> <li>• Unscheduled ED visits for opioid poisoning (all diagnosis types)</li> <li>• ICD-10-CA codes T40.0 (poisoning by opium), T40.1 (poisoning by heroin), T40.2 (poisoning by other opioids), T40.3 (poisoning by methadone), T40.4 (poisoning by other synthetic narcotics), T40.6 (poisoning by other and unspecified narcotics)</li> </ul> <p><i>Exclusions</i> Cases with a query or suspected diagnosis (diagnosis prefix = Q)</p> <p><b>Method</b> Numerator/denominator × 100,000</p> <p><b>Data source:</b> National Ambulatory Care Reporting System, data provided by Public Health Ontario at <a href="https://www.publichealthontario.ca/en/dataandanalytics/pages/opio id.aspx">https://www.publichealthontario.ca/en/dataandanalytics/pages/opio id.aspx</a></p>
ADDITIONAL INFORMATION	Limitations	<ul style="list-style-type: none"> <li>• Data from ED visits capture only those who visit the ED and might not reflect the total burden in the population</li> <li>• Data for Ontario residents who visit ED or die outside of the province are not included</li> <li>• Dependent on coding (e.g., ICD-10-CA codes)</li> </ul>
	Comments	<ul style="list-style-type: none"> <li>• Tracked provincially and reported in a timely way by Public Health Ontario</li> </ul>

Abbreviations: ED, emergency department; ICD-10-CA, International Statistical Classification of Diseases, 10<sup>th</sup> edition, Canada.

Table 3: Rate of Opioid-Related Hospital Admissions

GENERAL DESCRIPTION	Indicator description	Name: Rate of opioid-related hospital admissions Directionality: A lower rate is better
	<b>Measurability</b>	<b>Measurable at the provincial level</b>
	Dimensions of quality	Safe
	Quality statement alignment	All quality standard statements align
DEFINITION & SOURCE INFORMATION	Calculation: general	<p><b>Denominator</b> Population</p> <p><b>Numerator</b> Number of hospitalizations for opioid poisonings</p> <p><i>Inclusions</i></p> <ul style="list-style-type: none"> <li>• Hospitalizations for opioid poisoning (all diagnosis types)</li> <li>• ICD-10-CA codes T40.0 (poisoning by opium), T40.1 (poisoning by heroin), T40.2 (poisoning by other opioids), T40.3 (poisoning by methadone), T40.4 (poisoning by other synthetic narcotics), T40.6 (poisoning by other and unspecified narcotics)</li> </ul> <p><i>Exclusions</i> Cases with a query or suspected diagnosis (diagnosis prefix = Q)</p> <p><b>Method</b> Numerator/denominator × 100,000</p> <p><b>Data source:</b> Discharge Abstracts Database, data provided by Public Health Ontario at <a href="https://www.publichealthontario.ca/en/dataandanalytics/pages/opioid.aspx">https://www.publichealthontario.ca/en/dataandanalytics/pages/opioid.aspx</a></p>
ADDITIONAL INFORMATION	Limitations	<ul style="list-style-type: none"> <li>• Data from hospitalizations capture only those who are hospitalized and might not reflect the total burden in the population</li> <li>• Data for Ontario residents who visit a hospital or die outside of the province are not included</li> <li>• Dependent on coding (e.g., ICD-10-CA codes)</li> </ul>
	Comments	<ul style="list-style-type: none"> <li>• Tracked provincially and reported in a timely way by Public Health Ontario</li> </ul>

Abbreviation: ICD-10-CA, International Statistical Classification of Diseases, 10<sup>th</sup> edition, Canada.

Table 4: Population Rate of People Prescribed Opioid Therapy (Proxy Measure)

GENERAL DESCRIPTION	Indicator description	Name: Population rate of people with chronic pain prescribed opioid therapy (proxy measure) Directionality: A lower rate is better
	<b>Measurability</b>	<b>Measurable at the provincial level with proxy denominator (population)</b>
	Dimensions of quality	Safe
	Quality statement alignment	Quality Statement 1: Comprehensive Assessment Quality Statement 2: Setting Goals for Pain management and Function Quality Statement 3: First-Line Treatment with Non-opioid Therapies Quality Statement 4: Information on Benefits and Harms of Opioid Use and Shared Decision-Making Quality Statement 5: Initiating a Trial of Opioids for Chronic Pain Quality Statement 8: Prescription Monitoring Systems Quality Statement 9: Tapering and Discontinuation Quality Statement 10: Health Care Professional Education
DEFINITION & SOURCE INFORMATION	Calculation: general	<p><b>Denominator</b> Total population (proxy for chronic pain population)</p> <p><b>Numerator</b> Number of people prescribed opioid therapy</p> <p><i>Exclusions</i></p> <ul style="list-style-type: none"> <li>• Prescriptions for methadone maintenance therapy and buprenorphine/naloxone; prescriptions for opioid-containing cough medications</li> <li>• People who are receiving palliative care</li> </ul> <p><b>Method</b> Numerator/denominator × 10,000</p> <p><b>Data source:</b> Narcotics Monitoring System Registered Persons Database, Ontario Health Insurance Plan database, Discharge Abstracts Database</p>

ADDITIONAL INFORMATION	Limitations	<ul style="list-style-type: none"> <li>• Excludes prescriptions for methadone when used to treat opioid addiction (methadone maintenance therapy)</li> <li>• Submission to NMS is not required when dispensing monitored drugs to prisoners or inmates. This includes prescriptions written for people confined to a correctional institution, penitentiary, prison, or youth custody facility</li> <li>• Submission to NMS is not required when dispensing monitored drugs to inpatients of a public hospital as part of their treatment in a public hospital. (Submission to NMS is, however, required when dispensing monitored drugs to inpatients of private hospitals or any other institution that is not a public hospital)</li> <li>• Not all opioids are monitored by NMS (see the <a href="#">Monitored Drug List</a> for the full list of monitored drugs)</li> <li>• Although NMS will allow electronic submission of dispensing information (and reversals) up to 365 days from the date of service, dispensers are required to make submissions to NMS at the time of dispensing</li> </ul>
	Comments	This indicator measures unique patients, meaning people are counted only once, even though more than one provider might have prescribed opioids

Abbreviation: NMS, Narcotic Monitoring System.

Table 5: Population Rate of Opioid Prescriptions Dispensed for Chronic Pain (Proxy Measure)

GENERAL DESCRIPTION	Indicator description	Name: Population rate of opioid prescriptions dispensed for chronic pain (proxy measure) Directionality: A lower rate is generally considered to be better
	<b>Measurability</b>	<b>Measurable at the provincial level with proxy denominator (population)</b>
	Dimensions of quality	Safe
	Quality statement alignment	Quality Statement 1: Comprehensive Assessment Quality Statement 2: Setting Goals for Pain Management and Function Quality Statement 3: First-Line Treatment with Non-opioid Therapies Quality Statement 4: Information on Benefits and Harms of Opioid Use and Shared Decision-Making Quality Statement 5: Initiating a Trial of Opioids for Chronic Pain Quality Statement 6: Co-prescribing Opioids and Benzodiazepines Quality Statement 8: Prescription Monitoring Systems Quality Statement 9: Tapering and Discontinuation Quality Statement 10: Health Care Professional Education
DEFINITION & SOURCE INFORMATION	Calculation: general	<p><b>Denominator</b> Total population (proxy for chronic pain population)</p> <p><b>Numerator</b> Number of opioid prescriptions dispensed</p> <p><i>Exclusions</i> Prescriptions for methadone maintenance therapy and buprenorphine/naloxone, prescriptions for opioid-containing cough medications, prescriptions for people who are receiving palliative care</p> <p><b>Method</b> Numerator/denominator × 10,000</p> <p><b>Data source:</b> NMS, Registered Persons Database, Ontario Health Insurance Plan database, Discharge Abstracts Database</p>

ADDITIONAL INFORMATION	Limitations	<ul style="list-style-type: none"> <li>• Excludes prescriptions for methadone used to treat opioid addiction (methadone maintenance therapy)</li> <li>• Submission to NMS is not required for monitored drugs prescribed to prisoners or inmates. This includes prescriptions written for people confined to a correctional institution, penitentiary, prison, or youth custody facility</li> <li>• Submission to NMS is not required when dispensing monitored drugs to inpatients of a public hospital as part of their treatment in a public hospital. (Submission to NMS is, however, required when dispensing monitored drugs to inpatients of private hospitals or any other institution that is not a public hospital)</li> <li>• Not all opioids are monitored by NMS (see the <a href="#">Monitored Drug List</a> for the full list of monitored drugs)</li> <li>• Although NMS will allow electronic submission of dispensing information (and reversals) up to 365 days from the date of service, dispensers are required to make submissions to NMS at the time of dispensing</li> </ul>
	Comments	Not all prescriptions are dispensed; therefore, using a measure of prescriptions dispensed rather than prescriptions more accurately reflects patient use of opioids.

Abbreviation: NMS, Narcotic Monitoring System.

## 5.4 How Success Can Be Measured Locally

You may want to assess the quality of care you provide for patients you are prescribing an opioid to manage chronic pain. You may also want to monitor your own quality improvement efforts. It may be possible to do this using your own clinical records, or you might need to collect additional data. We would recommend the following list of potential indicators. Some of these cannot be measured provincially using currently available data sources.

- Percentage of people who are prescribed opioids for chronic pain with improved quality of life
- Percentage of people who are prescribed opioids for chronic pain with improved functional outcomes
- Percentage of people who are prescribed opioids for chronic pain who experience reduced pain
- Percentage of people who are prescribed opioids for chronic pain and subsequently develop opioid use disorder

Table 6: Percentage of People who are Prescribed Opioids for Chronic Pain With Improved Quality of Life

GENERAL DESCRIPTION	Indicator description	Percentage of people who are prescribed opioids for chronic pain with improved quality of life Directionality: A higher percentage is better
	<b>Indicator status</b>	<b>Developmental</b>
	Dimensions of quality	Patient-centred
	Quality statement alignment	All quality standard statements align
DEFINITION & SOURCE INFORMATION	Calculation	<p><b>Denominator</b> Number of patients with chronic pain who are prescribed an opioid</p> <p><i>Inclusions</i> Patients who experience pain longer than 3 months or past the usual time of tissue healing</p> <p><b>Numerator</b> Number of patients in the denominator with improved quality of life</p> <p><b>Method</b> Numerator/denominator × 100</p>
	Data source	Local data collection
ADDITIONAL INFORMATION	Limitations	<p>Presence of comorbidities, particularly depression and mental illness, can alter indicator results</p> <p>Quality of life tools might not be generalizable to all populations and could be prone to ceiling or floor effects</p>
	Comments	Many validated quality of life assessment tools are readily available and preferred over tools that have not been validated

Table 7: Percentage of People who are Prescribed Opioids for Chronic Pain With Improved Functional Outcomes

GENERAL DESCRIPTION	Indicator description	Percentage of people who are prescribed opioids for chronic pain with improved functional outcomes Directionality: A higher percentage is better
	<b>Indicator status</b>	<b>Developmental</b>
	Dimensions of quality	Effective
	Quality statement alignment	All quality standard statements align
DEFINITION & SOURCE INFORMATION	Calculation	<p><b>Denominator</b> Number of patients with chronic pain who are prescribed an opioid</p> <p><i>Inclusions</i> Patients who experience pain longer than 3 months or past the usual time of tissue healing</p> <p><b>Numerator</b> Number of patients in the denominator with improved functional outcomes</p> <p><b>Method</b> Numerator/denominator × 100</p>
	Data source	Local data collection
ADDITIONAL INFORMATION	Limitations	Presence of comorbidities can alter indicator results
	Comments	Many validated functional assessment tools are readily available and preferred over tools that have not been validated

Table 8: Percentage of People who are Prescribed Opioids for Chronic Pain who Experience Reduced Pain

GENERAL DESCRIPTION	Indicator description	Percentage of people who are prescribed opioids for chronic pain who experience reduced pain Directionality: A lower percentage is better
	<b>Indicator status</b>	<b>Developmental</b>
	Dimensions of quality	Safe
	Quality statement alignment	All quality standard statements align
DEFINITION & SOURCE INFORMATION	Calculation	<p><b>Denominator</b> Number of patients with chronic pain who are prescribed an opioid</p> <p><i>Inclusions</i> Patients who experience pain longer than 3 months or past the usual time of tissue healing</p> <p><b>Numerator</b> Number of patients in the denominator who experience reduced pain</p> <p><b>Method</b> Numerator/denominator × 100</p>
	Data source	Local data collection
ADDITIONAL INFORMATION	Limitations	Presence of comorbidities, particularly depression and mental illness, can alter indicator results
	Comments	Many validated pain assessment tools are readily available and preferred over tools that have not been validated

Table 9: Percentage of People who are Prescribed Opioids for Chronic Pain and Subsequently Develop Opioid Use Disorder

GENERAL DESCRIPTION	Indicator description	Percentage of people who are prescribed opioids for chronic pain and subsequently develop opioid use disorder Directionality: A lower percentage is better
	<b>Indicator status</b>	<b>Developmental</b>
	Dimensions of quality	Safe
	Quality statement alignment	All quality standard statements align
DEFINITION & SOURCE INFORMATION	Calculation	<p><b>Denominator</b> Number of people who are prescribed opioids for chronic pain</p> <p><i>Inclusions</i> Patients who experience pain longer than 3 months or past the usual time of tissue healing</p> <p><b>Numerator</b> Number of patients in the denominator who subsequently develop opioid use disorder</p> <p><b>Method</b> Numerator/denominator × 100</p>
	Data source	Local data collection
ADDITIONAL INFORMATION	Limitations	No screening tool is sufficiently accurate to be used as the sole method of identifying substance use disorders
	Comments	While the use of screening tools for opioid use disorder and other substance use disorders is suggested, clinical judgment is of paramount importance

## 6 Resources and Questions

### 6.1 Resources

Several resources are available for more information:

- The **quality standard** provides information on the background, definitions of terminology, numerators and denominators for all statement-specific indicators
- The **Getting Started Guide** includes quality improvement tools and resources for health care professionals, including an action plan template
- The **infobrief** provides data on why a particular quality standard has been created and the data behind it
- The **data tables** provide data that can be used to examine variations in indicator results across the province

### 6.2 Questions?

Please contact [qualitystandards@hgontario.ca](mailto:qualitystandards@hgontario.ca). We would be happy to provide advice on measuring quality standard indicators, or put you in touch with other providers who have implemented the standards and might have faced similar questions.

Health Quality Ontario offers an online community dedicated to improving the quality of health care across Ontario together called [Quorum](#). Quorum can support your quality improvement work by allowing you to:

- Find and connect with others working to improve health care quality
- Identify opportunities to collaborate
- Stay informed with the latest quality improvement news
- Give and receive support from the community
- Share what works and what doesn't
- See details of completed quality improvement projects
- Learn about training opportunities
- Join a community of practice

## 7 Appendix: Data Sources Referenced in This Quality Standard

Within this quality standard, there are several data sources used for provincial measurement. The data source(s) for each indicator are listed within the individual indicator specifications. More details on the specific data sources that Health Quality Ontario used to produce the indicators are noted below.

### **Public Health Ontario Opioid-Related Morbidity and Mortality in Ontario**

The online Interactive Opioid Tool allows public users to explore the most recent opioid-related morbidity and mortality data including emergency department visits, hospitalizations and deaths. Results can be viewed by public health unit, local health integration network, age, sex, and in some cases, drug type.

#### **Source:**

<http://www.publichealthontario.ca/en/dataandanalytics/pages/opioid.aspx#/trends>

### **Narcotics Monitoring System**

The Narcotics Monitoring System (NMS) is a transaction-based system that collects dispensing data on opioids, controlled substances, and other monitored drugs from pharmacies and other dispensaries across Ontario, irrespective of whether the prescription is paid for under a publicly-funded program, through private insurance, or by cash. The information collected in the NMS includes prescriber identification, patient identification, pharmacy and pharmacist identification, date the drug was dispensed, drug identification number and the amount of drug dispensed. The NMS does not include information about monitored drugs dispensed to an in-patient of a public hospital as part of their treatment, but it does include information about dispenses to out-patients of public hospitals and in-patients of private hospitals and health care facilities such as long-term care homes. Also, the NMS does not capture drugs dispensed to people confined to correctional institutions, penitentiaries, prisons or youth custody facilities. The Ministry of Health and Long-Term Care maintains the NMS, which was implemented in April 2012 and became operational in May 2012.

### **Registered Persons Data Base (RPDB) – Ministry of Health and Long-Term Care (MOHLTC)**

The RPDB provides basic demographic information about anyone who has ever received an Ontario health card number. The RPDB is a historical listing of the unique health numbers issued to each person eligible for Ontario health services. This listing includes corresponding demographic information such as date of birth, sex, address, date of death (where applicable) and changes in eligibility status. Data from the RPDB are enhanced with available information through other administrative data sources at the Institute for Clinical Evaluative Sciences (ICES); however, even the enhanced dataset overestimates the number of people living in Ontario for several reasons, including the source of death information and record linkage issues. Although improvements have been made in recent years, the RPDB still contains a substantial number of individuals who are deceased or no longer living in Ontario. As such, the RPDB will underestimate mortality. To ensure that rates and estimates are correct, a methodology has been developed to adjust the RPDB so that regional population counts by age and sex match estimates from Statistics Canada.

### **Ontario Opioid-Related Death database, 2003–2016, Office of the Chief Coroner for Ontario**

In Ontario, all deaths that are sudden and unexpected, or unnatural are investigated by the OCCO to ascertain cause and manner of death. Deaths were deemed to be opioid-related by the coroner if post-mortem toxicological analysis revealed opioid concentrations sufficiently high enough to cause death, or if a combination of drugs (including at least one opioid at clinically significant levels) contributed to death.

### **Corporate Provider Database (CPDB)**

The Corporate Provider Database is a repository of health care provider data. The CPDB contains information on the providers' reported specialties and postal code of practice. The Ministry of Health and Long-Term Care maintains the CPDB, with the College of Physicians and Surgeons of Ontario providing regular updates on provider credentials.

### **Discharge Abstract Database (DAD) – Canadian Institute for Health Information (CIHI)**

The DAD is a database of information abstracted from hospital records that captures administrative, clinical and patient demographic information on all hospital inpatient separations, including discharges, deaths, signouts and transfers. CIHI receives Ontario data directly from participating facilities or from their respective regional health authorities or the Ministry of Health and Long-Term Care. The DAD includes patient-level data for acute care facilities in Ontario. Data are collected, maintained and validated by CIHI. The main data elements of the DAD are patient identifiers (e.g. name, health care number), administrative information, clinical information (e.g. diagnoses and procedures) and patient demographics (e.g. age, sex, geographic location).

### **National Ambulatory Care Reporting System (NACRS) – Canadian Institute for Health Information (CIHI)**

NACRS contains data for all hospital-based and community-based emergency and ambulatory care, including day surgeries, outpatient clinics and emergency departments. Data are collected, maintained and validated by CIHI. CIHI receives Ontario data directly from participating facilities or from their respective regional health authorities or the Ministry of Health and Long-Term Care. Data elements of the NACRS include patient identifiers (e.g. name, health care number), patient demographics (e.g. age, sex, geographic location), clinical information (e.g. diagnoses and procedures), and administrative information.

### **Ontario Health Insurance Plan (OHIP) – Ministry of Health and Long-Term Care (MOHLTC)**

The OHIP claims database covers all reimbursement claims to the MOHLTC made by fee-for-service physicians, community-based laboratories and radiology facilities. The OHIP database at ICES contains encrypted patient and physician identifiers, codes for services provided, date of service, the associated diagnosis and fee paid. Services which are missing from the OHIP data include: some lab services; services received in provincial psychiatric hospitals; services provided by health service organizations and other alternate providers; diagnostic procedures performed on an inpatient basis and lab services performed at hospitals (both inpatient and same day). Also excluded is remuneration to physicians through alternate funding plans (AFPs), which could distort analyses because of their concentration in certain specialties or geographic areas.

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