

Opioid Daily Dosage

OntarioMD i4C Dashboard Indicator

For more information regarding OntarioMD Indicators or the EMR i4C Dashboard Specification, please refer to:

<https://www.ontariomd.ca/emr-certification/emr-specification/ontariomd-indicator-library>

1. VERSION HISTORY

INDICATOR VERSION	PUBLICATION DATE	REMARKS
1.0	2019-02-18	<ul style="list-style-type: none"> Initial release
2.0	2019-07-09	<ul style="list-style-type: none"> Added Indicator ID, Indicator Segment ID and Display Indicator Segment properties Changed format and content of Indicator User Help Changed format of Source property Indicator Segment IDs re-sequenced to provide consistency across indicators Indicator Segment Query Criteria clarifies that query result from a segment should produce a count of patients

2. INDICATOR DEFINITION

2.1 Indicator Properties

PROPERTY	VALUE
Indicator ID	MED-OPI-003
Indicator Name	Opioid Daily Dosage: Total MMEq/day
Indicator Version	2.0
Date Published	2019-07-09
Description	<p>Purpose:</p> <p>This indicator is used to identify patients who have a high cumulative daily dosage of opioids based on current opioid prescriptions.</p> <p>Base Population:</p> <p>All non-palliative care patients with an Active demographic status recorded in the EMR who have one or more current opioid prescriptions recorded in the EMR.</p> <p>Indicator Segments:</p> <p>Indicator segments provide the following patient summaries:</p> <ul style="list-style-type: none"> Count of patients, with complete medication information documented for all current opioid prescriptions, and with conversion data available for all current opioid prescriptions, with a total daily Morphine Equivalent dosage < 50; Count of patients, with complete medication information documented for all current opioid prescriptions, and with conversion data available for all current opioid prescriptions, with a total daily Morphine Equivalent dosage >= 50 and < 90; Count of patients, with complete medication information documented for all current opioid prescriptions, and with conversion data available for all current opioid prescriptions, with a total daily Morphine Equivalent dosage >= 90; Count of patients, with complete medication information documented for all current opioid prescriptions, but with missing morphine conversion information for one or more opioid prescriptions; Count of patients, with incomplete medication information documented for one or more current opioid prescriptions.

PROPERTY	VALUE
	<p>Suggested Indicator Use:</p> <p>Physician use of this indicator is to review charts of patients with a daily cumulative Morphine Equivalent dosage ≥ 90 for possible recall or other follow-up actions. Another use of this indicator is to help physicians identify prescriptions entered in a non-standard way which prevents the opioid daily cumulative Morphine Equivalent dosage from being accurately calculated.</p> <p>Measurements of Interest:</p> <p>Percentage of patients with Morphine Equivalent Daily Dosage ≥ 90 out of all patients in the base population for whom a daily dosage can be calculated for all current opioid prescriptions;</p> <p>Percentage of patients for whom all current opioid prescriptions are documented with complete medication information out of the base population.</p>
Source	HQO
Source Description	Based on the Opioid Prescribing indicators defined in the technical appendix of the HQO MyPractice: Primary Care Report version 3 (December 2018), as well as the HQO Quality Standards on Opioid Prescribing and Opioid Addiction.
Status	Active
Category	Medication Management
Subcategory	Opioids
Indicator Order	3
Indicator Graphic Type	Pie Chart, Bar Chart
Indicator Graphic Notes	
Indicator User Help	Opioid Daily Dosage: MMEq/day

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	<p>Purpose:</p> <p>This indicator is used to identify patients who have a high cumulative daily dosage of opioids based on current opioid prescriptions.</p> <p>Base Population:</p> <p>All non-palliative care patients with an Active demographic status recorded in the EMR who have one or more current opioid prescriptions recorded in the EMR.</p> <p>Indicator Segments:</p> <p>Indicator segments provide the following patient summaries:</p> <ul style="list-style-type: none"> • Count of patients, with complete medication information documented for all current opioid prescriptions, and with conversion data available for all current opioid prescriptions, with a total daily Morphine Equivalent dosage < 50; • Count of patients, with complete medication information documented for all current opioid prescriptions, and with conversion data available for all current opioid prescriptions, with a total daily Morphine Equivalent dosage ≥ 50 and < 90; • Count of patients, with complete medication information documented for all current opioid prescriptions, and with conversion data available for all current opioid prescriptions, with a total daily Morphine Equivalent dosage ≥ 90; • Count of patients, with complete medication information documented for all current opioid prescriptions, but with missing morphine conversion information for one or more opioid prescriptions; • Count of patients, with incomplete medication information documented for one or more current opioid prescriptions. <p>Suggested Indicator Use:</p> <p>Physician use of this indicator is to review charts of patients with a daily cumulative Morphine Equivalent dosage ≥ 90 for possible recall or other follow-up actions. Another use of this indicator is to help physicians identify prescriptions entered in a non-standard way which prevents the opioid daily cumulative Morphine Equivalent dosage from being accurately calculated.</p> <p>Measurements of Interest:</p> <p>Percentage of patients with Morphine Equivalent Daily Dosage ≥ 90 out of all patients in the base population for whom a daily dosage can be calculated for all current opioid prescriptions;</p>

PROPERTY	VALUE									
	<p>Percentage of patients for whom all current opioid prescriptions are documented with complete medication information out of the base population.</p> <p>Metric Criteria:</p> <p><u>Total MMEq/day < 50</u>: Patients WITH a cumulative Opioid MMEq/day < 50</p> <p><u>50 <= Total MMEq/day < 90</u>: Patients WITH a cumulative Opioid MMEq/day >= 50 and < 90</p> <p><u>Total MMEq/day >= 90</u>: Patients WITH a cumulative Opioid MMEq/day >= 90</p> <p><u>Prescription Details Not Available</u>: Patients with one or more current opioid prescriptions containing incomplete information.</p> <p><u>Conversion Factor Not Available</u>: Patients with all current opioid prescriptions containing complete information but with MMEq conversion information not available for one or more current opioid prescriptions.</p> <p>MMEq/day¹ is the combined daily dosage of all current opioids prescribed to a patient, converted to a Morphine Equivalent dosage. For MMEq/day to be calculated, all current opioid prescriptions must contain complete information and must have an MME conversion factor available.</p> <p>The following conversion factors are used, based on guidelines from McMaster's National Pain Centre and the U.S.A. Medicare guidelines:</p> <table><tr><th>Opioid</th><th>Conversion Factor</th><th>Source</th></tr><tr><td>Morphine</td><td>1</td><td>HQO (McMaster National Pain Centre)</td></tr><tr><td>Codeine</td><td>0.15</td><td>HQO (McMaster National Pain Centre)</td></tr></table>	Opioid	Conversion Factor	Source	Morphine	1	HQO (McMaster National Pain Centre)	Codeine	0.15	HQO (McMaster National Pain Centre)
Opioid	Conversion Factor	Source								
Morphine	1	HQO (McMaster National Pain Centre)								
Codeine	0.15	HQO (McMaster National Pain Centre)								

¹ Optional: Implementers may include EMR-specific information on the workflow for documenting current prescriptions.

PROPERTY	VALUE		
	Oxycodone	1.5	HQO (McMaster National Pain Centre)
	Hydrocodone	1	HQO (McMaster National Pain Centre)
	Hydromorphone	5	HQO (McMaster National Pain Centre)
	Meperidine	0.1	HQO (McMaster National Pain Centre)
	Tramadol	0.1	HQO (McMaster National Pain Centre)
	Transfermal Fentanyl Patch - 12.5 g/h	67	HQO (McMaster National Pain Centre)
	Transfermal Fentanyl Patch - 25 mcg/h	134	HQO (McMaster National Pain Centre)
	Transfermal Fentanyl Patch - 37.5 mcg/h	179	HQO (McMaster National Pain Centre)
	Transfermal Fentanyl Patch - 50 mcg/h	224	HQO (McMaster National Pain Centre)
	Transfermal Fentanyl Patch - 75 mcg/h	314	HQO (McMaster National Pain Centre)
	Transfermal Fentanyl Patch - 100 mcg/h	404	HQO (McMaster National Pain Centre)
	Butorphanol	7	Medicare Conversion Factors
	Dihydrocodeine	0.25	Medicare Conversion Factors
	Opium	1	Medicare Conversion Factors
	Oxymorphone	3	Medicare Conversion Factors
	Pentazocine	.037	Medicare Conversion Factors
	Tapentadol	0.4	Medicare Conversion Factors

2.2 Indicator Segment Properties

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
Indicator Segment ID	1	2	3	4	5
Indicator Segment Label	Total MMEq/day < 50	50 <= total MMEq/day <90	Total MMEq/day >= 90	Prescription details not available	Conversion factor not available
Display Indicator Segment	Yes	Yes	Yes	Yes	Yes
Indicator Segment Query Criteria	<p>COUNT OF:</p> <p>Active, non-palliative care patients</p> <p>WITH one or more current opioid prescriptions</p> <p>WHERE each opioid prescription is documented with <i>required medication information</i> for calculating a <i>medication daily dosage</i></p> <p>AND WHERE each opioid prescription has an existing <i>Morphine Equivalent conversion factor</i></p>	<p>COUNT OF:</p> <p>Active, non-palliative care patients</p> <p>WITH one or more current opioid prescriptions</p> <p>WHERE each opioid prescription is documented with <i>required medication information</i> for calculating a <i>medication daily dosage</i></p> <p>AND WHERE each opioid prescription has an existing <i>Morphine Equivalent conversion factor</i></p> <p>AND WITH <i>Opioid Daily Morphine Equivalent</i></p>	<p>COUNT OF:</p> <p>Active, non-palliative care patients</p> <p>WITH one or more current opioid prescriptions</p> <p>WHERE each opioid prescription is documented with <i>required medication information</i> for calculating a <i>medication daily dosage</i></p> <p>AND WHERE each opioid prescription has an existing <i>Morphine Equivalent conversion factor</i></p>	<p>COUNT OF:</p> <p>Active, non-palliative care patients</p> <p>WITH one or more current opioid prescriptions</p> <p>AND WHERE one or more opioid prescriptions are not documented with <i>required medication information</i> for calculating a <i>medication daily dosage</i></p> <p>AND WHERE one or more opioid prescriptions do not have an existing <i>Morphine Equivalent conversion factor</i></p>	<p>COUNT OF:</p> <p>Active, non-palliative care patients</p> <p>WITH one or more current opioid prescriptions</p> <p>WHERE each opioid prescription is documented with <i>required medication information</i> for calculating a <i>medication daily dosage</i></p> <p>AND WHERE one or more opioid prescriptions do not have an existing <i>Morphine Equivalent conversion factor</i></p>

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
	AND WITH Opioid Daily Morphine Equivalent Patient Total < 50	Patient Total >= 50 and < 90	AND WITH Opioid Daily Morphine Equivalent Patient Total >= 90		
Indicator Segment Query Notes	<p>Active Patients are patients identified as 'Active' in the <i>Patient Status</i> data element (DE01.016) within <i>Patient Demographics</i>.</p> <p>Non-palliative care patients are patients WITHOUT any of the following Service Codes billed for the patient: A945, C945, C882, C982, W872, W882, W972, W982, K023, B998, B966, B997, G511, G512 AND WITHOUT Code Z515 (<i>ICD-10 Coding System</i>) captured in the <i>Diagnosis/Problem</i> data element (DE06.004) within <i>Ongoing Health</i>.</p> <p>Current opioid prescription is a patient medication recorded in <i>Medications</i> (DE09) AND is not a <i>Past Medication</i> (DE09.017) AND is identified by any of the following text within the brand or generic medication name (DE09.003):</p> <p>"Alfentanil," "Buprenorphine," "Butorphanol," "Codeine," "Dihydrocodeine," "Fentanyl," "Hydrocodone," "Hydromorphone," "Meperidine," "Methadone," "Morphine," "Nalbuphine," "Opium," "Oxycodone," "Oxymorphone," "Pentazocine," "Pethidine," "Remifentanyl," "Sufentanil," "Tapentadol," "Tramadol."</p> <p>Transdermal Fentanyl Patch is a <i>current opioid medication</i> with <i>Medication Name</i> (DE09.003) containing "fentanyl" and <i>Drug Form</i> (DE09.008) is captured as "Patch."</p> <p>Required medication information consists of the following elements that have been captured for a <i>current opioid prescription</i> within <i>Medications</i> (DE09): <i>Medication Name</i> (DE09.003), <i>Drug Strength</i> (DE09.006), <i>Dosage</i> (DE09.007), <i>Drug Form</i> (DE09.008), <i>Frequency</i> (DE09.010)</p> <p>For Transdermal Fentanyl Patches, <i>Medication Name</i>, <i>Drug Strength</i>, <i>Dosage</i>, and <i>Drug Form</i> elements must all be populated with non-blank or non-null values.</p> <p>For all other opioids, all five data elements must be populated with non-blank or non-null values.</p> <p>Medication Strength is the opioid amount, converted to milligrams (mg), of a <i>current opioid prescription</i>, and is derived from the value and associated units of measure captured in <i>Drug Strength</i> (DE09.006).</p>				

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE																	
	Medication Amount is the quantity of pills, patches, etc. to be taken at one time, and is derived from the value captured in <i>Dosage (DE09.007)</i> . If the quantity is expressed as a range, use the maximum value for the <i>medication amount</i> .																					
	Medication Dosage = <i>Medication Strength X Medication Amount</i>																					
	Medication Frequency is the recommended number of times per day the <i>medication dosage</i> is to be taken. For <i>current opioid prescriptions</i> other than <i>transdermal fentanyl patches</i> , frequency is derived from the value captured in <i>Frequency (DE09.010)</i> . If the frequency is expressed as a range, use the maximum value for the <i>medication frequency</i> . If the frequency is captured as "PRN" or "Taken as needed," then <i>medication frequency</i> = zero (0) .																					
	For <i>transdermal fentanyl patches</i> , <i>medication frequency</i> is not required for Morphine Equivalent calculations.																					
	Medication Daily Dosage is calculated as <i>medication dosage X medication frequency</i> for <i>current opioid prescriptions</i> other than <i>transdermal fentanyl patches</i> .																					
	Morphine Equivalent Conversion Factor is a numeric value for converting the daily dosage of an opioid prescription to an equivalent daily dosage amount for Morphine. The following table lists conversion values to be used for different opioids (as recommended by the McMaster National Pain Centre and U.S.A. Medicare):																					
	<table><tr><th>Opioid</th><th>Conversion Factor</th><th>Source</th></tr><tr><td>Morphine</td><td>1</td><td>HQO (McMaster National Pain Centre)</td></tr><tr><td>Codeine</td><td>0.15</td><td>HQO (McMaster National Pain Centre)</td></tr><tr><td>Oxycodone</td><td>1.5</td><td>HQO (McMaster National Pain Centre)</td></tr><tr><td>Hydrocodone</td><td>1</td><td>HQO (McMaster National Pain Centre)</td></tr><tr><td>Hydromorphone</td><td>5</td><td>HQO (McMaster National Pain Centre)</td></tr></table>					Opioid	Conversion Factor	Source	Morphine	1	HQO (McMaster National Pain Centre)	Codeine	0.15	HQO (McMaster National Pain Centre)	Oxycodone	1.5	HQO (McMaster National Pain Centre)	Hydrocodone	1	HQO (McMaster National Pain Centre)	Hydromorphone	5
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	Pentazocine	.037	Medicare Conversion Factors		
	Tapentadol	0.4	Medicare Conversion Factors		
	Opioid Daily Morphine Equivalent For a <i>Transdermal Fentanyl Patch</i> , <i>opioid daily Morphine Equivalent</i> = medication dosage X Morphine Equivalent conversion factor. For all other opioids, <i>opioid daily Morphine Equivalent</i> = medication daily dosage X Morphine Equivalent conversion factor.				

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
	<p><i>Opioid Daily Morphine Equivalent</i> cannot be calculated where a <i>Morphine Equivalent conversion factor</i> does not exist for a specific opioid.</p> <p>Opioid Daily Morphine Equivalent Patient Total is the sum of <i>opioid daily Morphine Equivalent</i> values for each <i>current opioid prescription</i>.</p> <p>The <i>opioid daily Morphine Equivalent patient total</i> will only be calculated if: <i>required medication information</i> AND a <i>Morphine Equivalent conversion factor</i> exist for each <i>current opioid medication</i>.</p>				
Patient List Criteria	<p>Mandatory</p> <p>Patient Name</p> <p>Unique Patient Identifier</p> <p>Optional</p> <p>Patient Date of Birth</p> <p>Patient Age</p> <p>Patient Phone Number</p> <p>Current Opioid Medications</p> <p>Opioid MMEq Patient Total</p>	<p>Mandatory</p> <p>Patient Name</p> <p>Unique Patient Identifier</p> <p>Optional</p> <p>Patient Date of Birth</p> <p>Patient Age</p> <p>Patient Phone Number</p> <p>Current Opioid Medications</p> <p>Opioid MMEq Patient Total</p>	<p>Mandatory</p> <p>Patient Name</p> <p>Unique Patient Identifier</p> <p>Optional</p> <p>Patient Date of Birth</p> <p>Patient Age</p> <p>Patient Phone Number</p> <p>Current Opioid Medications</p> <p>Opioid MMEq Patient Total</p>	<p>Mandatory</p> <p>Patient Name</p> <p>Unique Patient Identifier</p> <p>Optional</p> <p>Patient Date of Birth</p> <p>Patient Age</p> <p>Patient Phone Number</p> <p>Current Opioid Medications</p>	<p>Mandatory</p> <p>Patient Name</p> <p>Unique Patient Identifier</p> <p>Optional</p> <p>Patient Date of Birth</p> <p>Patient Age</p> <p>Patient Phone Number</p> <p>Current Opioid Medications</p>
Patient List Notes	<p>Patient Name is a combination of First Name (<i>DE01.003</i>) and Last Name (<i>DE01.002</i>) data items from <i>Patient Demographics</i>. Names may be displayed either as separate columns or concatenated into one column.</p> <p>Unique Patient Identifier is any data item from <i>Patient Demographics</i> that can be used by a physician or clinic to uniquely identify a patient when displayed. Examples include Health Card Number (<i>DE01.008</i>) or Chart Number (<i>DE01.012</i>).</p>				

PROPERTY	VALUE	VALUE	VALUE	VALUE	VALUE
	<p>Patient Date of Birth is captured into <i>Patient Demographics</i> as Date of Birth (<i>DE01.007</i>).</p> <p>Patient Age is a calculated data item representing the difference between the current date and Date of Birth (<i>DE01.007</i>) from <i>Patient Demographics</i>. Age should be displayed in years.</p> <p>Patient Phone Number is the preferred phone number for contacting a patient and may include Residence Phone (<i>DE02.007</i>), Cell Phone (<i>DE02.008</i>) or Work Phone (<i>DE02.009</i>) from <i>Patient Address</i>.</p> <p>Current Opioid Medications is a concatenated listing of medication names (<i>DE09.003</i>), along with (if possible) either the <i>Prescription Written Date</i> (<i>DE09.001</i>) or <i>Start Date</i> (<i>DE09.002</i>) of current opioid prescriptions.</p> <p>Opioid MMEq Patient Total is the <i>opioid daily Morphine Equivalent patient total</i> that has been calculated for the patient.</p>				