

# Health Quality Ontario

*Let's make our health system healthier*

## **My Practice: Primary Care** Technical Appendix

## Table of Contents

|  |           |
|--|-----------|
| <b>Document changelog</b> .....  | <b>5</b>  |
| Introduction .....   | 6         |
| Cohort Generation.....   | 6         |
| Comparisons at the group, LHIN, and provincial levels.....   | 7         |
| LHIN assignment.....   | 7         |
| Adjustment .....   | 7         |
| Virtual rostering .....  | 8         |
| <b>Section 1: Opioid Prescribing</b> .....   | <b>9</b>  |
| Percentage of non-palliative care patients dispensed an opioid (excluding opioid agonist therapy) within a 6-month reporting period .....  | 9         |
| Percentage of non-palliative care patients newly dispensed an opioid (excluding opioid agonist therapy) within a 6-month reporting period .....  | 10        |
| Percentage of non-palliative care patients dispensed an opioid (including opioid agonist therapy) and benzodiazepine within a 6-month reporting period.....                              | 12        |
| Percentage of non-palliative care patients with a high-dose opioid product(s) > 90 morphine equivalents (MEQ) (excluding opioid agonist therapy) within a 6-month reporting period ..... | 13        |
| <b>Table A:</b> Complete list of medications.....  | 16        |
| <b>Table B:</b> Calculation of morphine equivalents (MEQs).....  | 18        |
| <b>Section 2: Cancer Screening</b> .....   | <b>19</b> |
| Percentage of screening eligible patients up-to-date with Papanicolaou (Pap) tests.....  | 19        |
| Percentage of screen-eligible patients up-to-date with a mammogram.....  | 20        |
| Percentage of screen-eligible patients up-to-date with colorectal screening .....  | 22        |
| <b>Section 3: Diabetes Management</b> .....  | <b>24</b> |
| Percentage of patients with diabetes up-to-date with glycated hemoglobin (HbA1C) tests .....   | 24        |
| Percentage of patients with diabetes up-to-date with a retinal examination .....   | 25        |
| Percentage of patients with diabetes up-to-date with an ACE inhibitor or ARB prescription.....   | 26        |
| Percentage of patients with diabetes up-to-date with a Statin prescription.....  | 27        |
| <b>Section 4: Health Service Utilization</b> .....   | <b>28</b> |
| Rate of total hospital emergency department (ED) visits per 1,000 patients .....   | 28        |
| Rate of urgent hospital emergency department (ED) visits per 1,000 patients.....   | 29        |
| Rate of less urgent hospital emergency department (ED) visits per 1,000 patients.....  | 30        |
| Percentage of hospital readmissions within 30 days.....  | 31        |
| Percentage of hospital readmissions within 1 year .....  | 32        |
| ACSC Admissions: Total .....   | 33        |

|   |           |
|---|-----------|
| ACSC Admissions: Asthma .....   | 35        |
| ACSC Admissions: CHF .....  | 36        |
| ACSC Admissions: COPD .....   | 37        |
| ACSC Admissions: Diabetes .....   | 38        |
| Percentage of visits to own physician .....   | 39        |
| <b>Section 5: Chronic Disease Cohorts .....</b>   | <b>40</b> |
| Chronic Disease Cohort Generation .....   | 40        |
| Chronic Disease Cohorts - Hypertension.....   | 42        |
| Chronic Disease Cohorts – Congestive Heart Failure (CHF) .....  | 42        |
| Chronic Disease Cohorts – Acute Myocardial Infarction (AMI).....  | 43        |
| Chronic Disease Cohorts – Mental Health Diagnosis.....  | 44        |
| Chronic Disease Cohorts – Diabetes.....   | 45        |
| <b>Section 6: Patient Demographics .....</b>  | <b>46</b> |
| Age.....  | 46        |
| Income quintile .....   | 47        |
| Patients Rurality Index of Ontario (RIO).....   | 47        |
| <b>Additional Indicators .....</b>  | <b>48</b> |
| Section 2: Diabetes Management.....   | 48        |
| Percentage of patients with diabetes for whom physicians billed the diabetes management assessment code (K030) at least once during the past year .....   | 48        |
| Percentage of patients with diabetes for whom physicians billed the diabetes management incentive code (Q040) at least once during the past year.....   | 49        |
| Measure source: MOHLTC Health Analytics Branch Data source: Ontario Diabetes Database (ODD) (comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database) and Discharge Abstract Database Metadata (DAD))..... | 50        |
| <b>Section 2: Health Service Utilization .....</b>  | <b>50</b> |
| Specialist Visits – Cardiologist .....  | 50        |
| Specialist Visits – Endocrinologist.....  | 50        |
| Specialist Visits – Internal Medicine Physician .....   | 51        |
| Specialist Visits – Psychiatrist.....   | 51        |
| Cost .....  | 52        |
| Regular Primary care Provider – Team .....  | 53        |
| Specialist Visits – Respiriologist.....   | 54        |
| Resource Utilization Band (RUB) .....   | 55        |
| Standardized ACG Morbidity Index (SAMI) .....   | 55        |
| <b>Section 5: Patient Demographics.....</b>   | <b>56</b> |
| Gender.....   | 56        |

|   |           |
|---|-----------|
| Recent OHIP registration .....  | 57        |
| <b>Appendix A – Table of Acronyms .....</b>   | <b>58</b> |
| <b>Appendix B – Data Sources .....</b>  | <b>60</b> |
| <b>Appendix C – Palliative care patients identified by using hospital and physician billing<br/>claims data .....</b> | <b>63</b> |

## Document Change Log

| CHANGE  | VERSION | RELEVANT RELEASE DATE |
|---|---------|-----------------------|
| Updated the adjustment population for the Family Health Team (FHT) and group reports to be all Ontarians (originally the adjustment population was all FHTs and all groups' patients respectively). | ---     | November 2016         |
| Added opioid indicators and technical details   | ---     | November 2017         |
| Excluded palliative care patients from all the indicators   | ---     | November 2017         |
| Updated the LHIN assignment section with more details   | V1      | April 2018            |
| The age inclusion criteria have been updated for the HbA1c testing, retinal eye exam, diabetes management assessment code K030 and diabetes management incentive code Q040 indicators.              | V2      | July 2018             |

## Introduction

### Cohort Generation

To generate the cohort included in this report, the following steps have been undertaken.

1. Individuals were selected from the Registered Persons Database (RPDB), a population-based registry maintained by the Ministry of Health and Long-Term Care (MOHLTC) and satisfied the following criteria:
  - a. Were alive at the index date (born and not dead)
  - b. Had a contact with the healthcare system within 7 years of the index date
  - c. Were Ontario residents
  - d. Were eligible for OHIP at the index date
2. Individuals that are rostered were identified through the Client Agency Program Enrolment (CAPE)
  - a. All individuals were selected based on the following CAPE codes: 10 = rostered with red and white Health Card, 11 = rostered with photo Health Card, 12 = patient preloaded from existing program area (i.e. Health Services Organization), 15 = patient resides in a Long Term Care facility. Confirmed that the CAPE eligibility overlapped index date
  - b. Kept the most recent start for individuals with multiple eligibility at index date
3. The Client Agency Program Enrollment (CAPE) database was used to determine the most responsible physician based on the following criteria:
  - a. Selected all physicians from CAPE
  - b. Created a dataset by physician where count is the number of patients that belong to the physician by enrollment program type obtained from step 2
  - c. Enrollment program type that has the highest number of patients was kept
  - d. Linked back to patients and recoded enrollment program type
  - e. Family Health Team (FHT) status was added
  - f. From Corporate Provider Database checked that physician is eligible in the group at index date

NOTE: A small number of physicians have patients rostered in multiple groups, in most cases one group has 1,200 patients and the other <10. The method above will keep the group that has the highest number of patients. The patients that are in the group with fewer patients will be reassigned
4. For patients that were not in CAPE a virtual rostering methodology was applied
  - a. All visits to specialist were obtained= 00, 05, 26 for the 2 year period preceding the index date for the following fee codes- A001, A003, A007,A903, E075, G212, G271, G372, G373, G365, G538, G539, G590, G591, K005, K013, K017, P004, A261, K267, K269, K130, K131, K132– core Primary Care codes
  - b. Cost of services (cost x number of service) was derived by linking to standard pricing file
  - c. For each patient the highest billing physician was selected
5. The last step combined rostered with virtually rostered individuals, while flagging if a patient is rostered, or virtually rostered. Some patients were virtually roster to physicians in Enrollment groups, some were virtually rostered to physicians that are not in a group. For these enrollment program type was recoded to 'NOR' not otherwise rostered. Also some patients did not have core PC claims. For these the enrollment program type was labeled as no physician "NOP".

## Comparisons at the group, LHIN, and provincial levels

In addition to practice-level rates, this report includes rates at the group, LHIN, and provincial levels, for context. Group-level figures (FHN, FHG, FHO) present data for all physicians from the group that each physician belongs to. LHIN-level figures present data from all physicians in their respective LHIN. Provincial-level data captures data from all physicians in Ontario. If a physician is in a group with less than five physicians, the group data will be subject to suppression rules and is not shown. Raw data values at each of these levels can be found in the document titled PCP Report Additional Indicators on the Health Quality Ontario PCP Report Server.

## LHIN assignment

Physicians are assigned to a main LHIN of practice through the following: For each physician, the price-adjusted payments for each patient's postal code was calculated and the Postal Code Conversion File (PCCF+) was used to assign a PRCDDA. Then a LHIN was derived by using PRCDDA. The LHINs associated with a physician's practice were then ranked according to their proportion of the physician's total adjusted payments and the highest ranking LHIN is assigned as the main LHIN of practice.

The LHIN population includes all patients attached (via rostering or virtual rostering) to physicians who were assigned that LHIN as their main region of practice.

Family Health Team to LHIN assignment was obtained from a file provided by the Ministry of Health and Long Term Care.

## Adjustment

Where indicated, a number of indicators have been adjusted for age, sex, income, rurality and co-morbidity. The reference population for adjustment is all Ontarians.

Income quintiles are derived using Statistics Canada's Postal Code Conversion File Plus (PCCF+). This program links the six-character post codes to census geographic areas in order to derive information such as income for each geographic area. For these analyses, data from the 2006 Census was used to assign postal codes to residents for census dissemination areas in the 2006 Census. Income adequacy, adjusted for household size and specific to each community, was used to order postal codes into quintiles, with income quintile 1 having the lowest relative income and income quintile 5 having the highest.

Rurality is based on the Rurality Index of Ontario (RIO) score. The RIO score is based on population size (and/or density) and travel time to basic/advanced referral centres. A RIO score of 0 to 39 is considered urban, a score of 10 to 39 specifies a non-major urban center, and a score of 40 and above is considered rural.

Co-morbidity has been identified based on the Adjusted Diagnostic Groups (ADGs). The ADGs are part of the Johns Hopkins Adjusted Clinical Group (ACG) case-mix system used to adjust for comorbidity. The ACG System groups every ICD-9 and ICD-10 diagnosis code assigned to a patient into one of the 32 different ADGs based on five clinical and expected utilization criteria: duration of the condition (acute, recurrent, or chronic); severity of the condition (e.g., minor and stable versus major and unstable); diagnostic certainty (symptoms focusing on diagnostic evaluation versus documented disease focusing on treatment services); etiology of the condition (infectious, injury, or other); and specialty care involvement (medical, surgical, obstetric, haematology, etc.). ADGs measure the burden of patient illness by counting the number of comorbid conditions that a person has based on aggregations of their symptomatology. ADGs serve as a diagnosis-based risk adjustment system that predict medical resource utilization. A higher ADG range indicates that the patient has a higher number of co-morbid conditions. Typically, patients who require a greater amount of health care resources are those with co-morbid conditions.

### **Virtual rostering**

The large majority of patients receiving care from a family physician working in a patient enrolment model are enrolled to that doctor. Those data are available in the Client Agency Enrolment Program (CAPE) database housed at ICES. For patients not in CAPE, a virtual rostering methodology was applied in which patients are attributed to the family physician having billed (or “Shadow billed” in capitation models) the largest dollar amount of core primary care services (based on the fee for service schedule) for that patient (Source: OHIP) in the previous two years.

## Section 1: Opioid Prescribing

Percentage of non-palliative care patients dispensed an opioid (excluding opioid agonist therapy) within a 6-month reporting period

|  |                                   |   |
|--|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | This indicator measures the percentage of non-palliative care patients dispensed an opioid within a 6-month reporting period. Opioid agonist therapy (OAT), cough and antidiarrheal opioid medications were not included in the opioid definition.  |
|  | <b>HQO Reporting tool/product</b> | My Practice: Primary Care   |
|  | <b>Type</b>                       | Process indicator   |
|  | <b>External Alignment</b>         | Not applicable  |
|  | <b>Other reporting</b>            | Not applicable  |
|  | <b>Accountability</b>             | This indicator is strictly for quality improvement efforts and is not for accountability.   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage  |
|  | <b>Calculation</b>                | <p><b>Numerator</b></p> <p>Patients dispensed an opioid within a 6-month reporting period.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>- OAT, cough and antidiarrheal opioid medications were not included in the opioid definition.</li> <li>- For a complete list of medications, please see table A.</li> <li>- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids.</li> <li>- This indicator is also stratified by the provider who prescribed the opioid, defined as: <ul style="list-style-type: none"> <li>“By me”: the assigned physician prescribed at least one opioid that was dispensed to the patient.</li> <li>“By others”: the assigned physician did not prescribe any opioids that were dispensed to the patient.</li> </ul> </li> </ul> <p><b>Denominator</b></p> <p>Patients assigned (rostered &amp; virtually rostered) to a physician for the specific reporting period.</p> <p>Exclusions:<br/>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes. Patients of less than one year of age.</p> |

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
|                                   |                                    | <p><b>Methods</b> numerator/denominator * 100</p> $\frac{\text{Patients dispensed an opioid prescribed during the 6 – month reporting period}}{\text{Patients assigned to a primary care physician}} \times 100$  |
|                                   |                                    | <p><b>Adjustment (risk, age/sex standardization)</b><br/>None</p>   |
|                                   | <b>Data source / data elements</b> | Data provider: Institute for Clinical Evaluative Sciences (ICES)<br>Data sources: Client Agency Program Enrolment (CAPE), Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS) |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>- Dispensed prescriptions don't always reflect actual use.</li> <li>- Opioids obtained through other means such as out-of-province or hospital dispensing, were not captured in the calculation of this indicator.</li> </ul>  |
|                                   | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>- The provincial-level results include patients not assigned to a physician.</li> </ul>  |

**Percentage of non-palliative care patients newly dispensed an opioid (excluding opioid agonist therapy) within a 6-month reporting period**

|  |                                   |  |
|--|-----------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | This indicator measures the percentage of non-palliative care patients newly dispensed an opioid within a 6-month reporting period. Opioid agonist therapy (OAT), cough and antidiarrheal opioid medications were not included in the opioid definition.                         |
|  | <b>HQO Reporting tool/product</b> | My Practice: Primary Care  |
|  | <b>Type</b>                       | Process indicator  |
|  | <b>External Alignment</b>         | Not applicable   |
|  | <b>Other reporting</b>            | Not applicable   |
|  | <b>Accountability</b>             | This indicator is strictly for quality improvement efforts and is not for accountability.  |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage   |
|  | <b>Calculation</b>                | <p><b>Numerator</b></p> <p>Patients newly dispensed an opioid within a 6-month reporting period.</p> <p>New dispensations were defined using a 6-month washout period i.e., no opioid prescription within 6 months of the first opioid prescription in the reporting period.</p> |

|                            |                              |  |
|----------------------------|------------------------------|--|
|                            |                              | <p>Notes:</p> <ul style="list-style-type: none"> <li>- OAT, cough and antidiarrheal opioid medications were not included in the opioid definition.</li> <li>- For a complete list of medications, please see table A.</li> <li>- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids.</li> <li>- This indicator is also stratified by the provider who prescribed the initial opioid, defined as: <ul style="list-style-type: none"> <li>“By me”: the assigned physician prescribed at least one of the newly started opioids dispensed to the patient.</li> <li>“By others”: the assigned physician did not prescribe any of the newly started opioids that were dispensed to the patient.</li> </ul> </li> </ul>   |
|                            |                              | <p><b>Denominator</b></p> <p>Patients assigned (rostered &amp; virtually rostered) to a physician for the specific reporting period.</p> <p>Exclusions:<br/>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes. Patients of less than one year of age.</p> <p><b>Methods</b> numerator/denominator * 100</p> $\frac{\text{Patients newly dispensed an opioid during the 6 – month reporting period}}{\text{Patients assigned to a primary care physician}} \times 100$ <p><b>Adjustment (risk, age/sex standardization)</b><br/>None</p> <p><b>Data source / data elements</b><br/>Data provider: Institute for Clinical Evaluative Sciences (ICES)<br/>Data sources: Client Agency Program Enrolment (CAPE), Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS)</p> |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b> | <ul style="list-style-type: none"> <li>- Dispensed prescriptions do not always reflect actual use.</li> <li>- Opioids obtained through other means such as out-of-province or hospital dispensing, were not captured in the calculation of this indicator.</li> </ul>  |
|                            | <b>Comments</b>              | <ul style="list-style-type: none"> <li>- The provincial-level results include patients not assigned to a physician.</li> </ul>   |

**Percentage of non-palliative care patients dispensed an opioid (including opioid agonist therapy) and benzodiazepine within a 6-month reporting period**

|  |                                   |  |
|--|-----------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | This indicator measures the percentage of non-palliative care patients that have been dispensed an opioid (including opioid agonist therapy (OAT)) and benzodiazepine within a 6-month reporting period. Cough and antidiarrheal opioid medications were not included in the opioid definition.  |
|  | <b>HQO Reporting tool/product</b> | My Practice: Primary Care  |
|  | <b>Type</b>                       | Process indicator  |
|  | <b>External Alignment</b>         | Not applicable   |
|  | <b>Other reporting</b>            | Not applicable   |
|  | <b>Accountability</b>             | This indicator is strictly for quality improvement efforts and is not for accountability.  |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage   |
|  | <b>Calculation</b>                | <p><b>Numerator</b></p> <p>Patients who have an opioid (including OAT) and a benzodiazepine prescription dispensed at any time within a 6-month reporting period.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>- Cough and antidiarrheal opioid medications were not included in the opioid definition.</li> <li>- For a complete list of medications, please see table A.</li> <li>- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids and/or benzodiazepines.</li> <li>- Prescriptions do not have to be dispensed together or overlap in any way.</li> <li>- This indicator is also stratified by the provider who prescribed the opioid and/or benzodiazepine, defined as: <ul style="list-style-type: none"> <li>“By me”: the assigned physician prescribed both an opioid and benzodiazepine that were dispensed to the patient.</li> <li>“By others”: the assigned physician did not prescribe both an opioid and benzodiazepine that were dispensed to the patient.</li> </ul> </li> </ul> |
|  |                                   | <p><b>Denominator</b></p> <p>Patients assigned (rostered &amp; virtually rostered) to a physician for the specific reporting period.</p> <p>Exclusions:</p> <p>Palliative care patients identified from hospital and physician billing claims data. Please see table B for classification and billing codes. Patients of less than one year of age.</p>  |

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
|                                   |                                    | <p><b>Methods</b> numerator/denominator * 100</p> <p>Patients dispensed an opioid and benzodiazepine during the 6 – month reporting period.</p> $\frac{\text{Patients dispensed an opioid and benzodiazepine during the 6 – month reporting period.}}{\text{Patients assigned to a primary care physician}} \times 100$   |
|                                   |                                    | <p><b>Adjustment (risk, age/sex standardization)</b><br/>None</p>   |
|                                   | <b>Data source / data elements</b> | Data provider: Institute for Clinical Evaluative Sciences (ICES)<br>Data sources: Client Agency Program Enrolment (CAPE), Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS)   |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>- Dispensed prescriptions do not always reflect actual use.</li> <li>- Opioids obtained through other means such as out-of-province or hospital dispensing, were not captured in the calculation of this indicator.</li> </ul>   |
|                                   | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>- Zolpidem is the only Z-drug that is regulated by Health Canada as a targeted drug, therefore captured by the NMS. The other Z-drug marketed in Canada is Zopiclone, a prescription drug, not classified as a targeted drug by Health Canada, and therefore not captured by the NMS.</li> <li>- The provincial-level results include patients not assigned to a physician.</li> </ul> |

**Percentage of non-palliative care patients with a high-dose opioid product(s) > 90 morphine equivalents (MEQ) (excluding opioid agonist therapy) within a 6-month reporting period**

|                                |                                   |   |
|--------------------------------|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>   | <b>Indicator description</b>      | This indicator measures the percentage of non-palliative care patients with a high-dose opioid product(s) within a 6-month reporting period. Opioid agonist therapy (OAT), cough and antidiarrheal opioid medications were not included in the opioid definition. |
|                                | <b>HQO Reporting tool/product</b> | My Practice: Primary Care   |
|                                | <b>Type</b>                       | Process indicator   |
|                                | <b>External Alignment</b>         | Not applicable  |
|                                | <b>Other reporting</b>            | Not applicable  |
|                                | <b>Accountability</b>             | This indicator is strictly for quality improvement efforts and is not for accountability.   |
| <b>DEFINITION &amp; SOURCE</b> | <b>Unit of analysis</b>           | Percentage  |
|                                | <b>Calculation</b>                | <p><b>Numerator</b><br/>Patients who had an average daily dose of &gt; 90 MEQ on at least one day within a 6-month reporting period.</p>  |

|                           |   |   |
|---------------------------|---|---|
| <b>OTH<br/>ER<br/>REL</b> |   | <p>Please see table B for MEQ calculations.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>- The average daily doses were summed for patients receiving two or more opioid products on a single day.</li> <li>- OAT, cough and antidiarrheal opioid medications as well as opioid medications for which an MEQ is not available, were not included in the opioid definition.</li> <li>- For a complete list of medications, please see table A.</li> <li>- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids.</li> <li>- This indicator is also stratified by the provider who prescribed the opioid, defined as: <ul style="list-style-type: none"> <li>“By me”: the assigned physician prescribed &gt;90 MEQ to the patient on at least one day.</li> <li>“By others”: the assigned physician did not prescribe &gt;90 MEQ to the patient on at least one day.</li> </ul> </li> </ul> |
|                           |   | <p><b>Denominator</b></p> <p>Patients assigned (rostered &amp; virtually rostered) to a physician for the specific reporting period.</p> <p>Exclusions:<br/>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes. Patients of less than one year of age.</p>   |
|                           |   | <p><b>Methods</b> numerator/denominator * 100</p> $\frac{\text{Patients who have had an average daily dose of } > 90 \text{ MEQ on at least one day during the 6 – month reporting period}}{\text{Patients assigned to a primary care physician}} \times 100$   |
|                           |   | <p><b>Adjustment (risk, age/sex standardization)</b></p> <p>None</p>  |
|                           |   | <p><b>Data source / data elements</b></p> <p>Data provider: Institute for Clinical Evaluative Sciences (ICES)<br/>Data sources: Client Agency Program Enrolment (CAPE), Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS)</p>   |
|                           | <p><b>Limitations / Caveats</b></p> <ul style="list-style-type: none"> <li>- Dispensed prescriptions do not always reflect actual use.</li> <li>- Days’ supply for the PRN medications are estimated in the NMS.</li> </ul> |   |

|  |                        |  |
|--|------------------------|--|
|  |                        | <ul style="list-style-type: none"> <li>- Considers all prescriptions the patient was on each day if the patient had an early fill but a different daily dose (e.g. When tapering) this method will overestimate their MEQ for the overlapping days.</li> <li>- Opioids obtained through other means such as out-of-province or hospital dispensing, were not captured in the calculation of this indicator.</li> </ul>   |
|  | <p><b>Comments</b></p> | <ul style="list-style-type: none"> <li>- The indicator's definition combines overlapping prescriptions for a patient that had the same Drug Identification Number (DIN) with same average daily dose to get one record with earliest start and latest end date per patient. The indicator does not account for early fills, so will be conservative on the length of the prescription but avoids double counting the prescription for the days' overlap between the current and next prescription.</li> <li>- The high dose could have been dispensed before the 6-month reporting period but the prescription ran into the reporting period.</li> <li>- The provincial-level results include patients not assigned to a physician.</li> </ul> |

**Table A: Complete list of medications**

| OPIOID MEDICATIONS FOR PAIN MANAGEMENT: DRUG NAME                         |
|---|
| ACETAMINOPHEN & CAFFEINE & CODEINE PHOSPHATE                              |
| ACETAMINOPHEN & CAFFEINE CITRATE & CODEINE PHOSPHATE                      |
| ACETAMINOPHEN & CHLORZOXAZONE & CODEINE                                   |
| ACETAMINOPHEN & CODEINE & DOXYLAMINE                                      |
| ACETAMINOPHEN & CODEINE PHOSPHATE   |
| ACETAMINOPHEN & CODEINE PHOSPHATE & METHOCARBAMOL                         |
| ACETAMINOPHEN & METHOCARBAMOL   |
| ACETAMINOPHEN & OXYCODONE HCL   |
| ACETAMINOPHEN & TRAMADOL  |
| ACETAMINOPHEN & TRAMADOL HCL  |
| ACETYLSALICYLIC ACID & BUTALBITAL & CAFFEINE & CODEINE PHOSPHATE          |
| ACETYLSALICYLIC ACID & CAFFEINE & CODEINE PHOSPHATE                       |
| ACETYLSALICYLIC ACID & CAFFEINE CITRATE & CODEINE PHOSPHATE               |
| ACETYLSALICYLIC ACID & CAFFEINE CITRATE & CODEINE PHOSPHATE & MEPROBAMATE |
| ACETYLSALICYLIC ACID & CODEINE PHOSPHATE & METHOCARBAMOL                  |
| ACETYLSALICYLIC ACID & OXYCODONE HCL                                      |
| ALFENTANIL HCL  |
| BELLADONA & OPIUM   |
| BUPRENORPHINE (for pain)  |
| BUTORPHANOL TARTRATE  |
| CODEINE PHOSPHATE   |
| CODEINE SULFATE   |
| FENTANYL  |
| FENTANYL CITRATE  |
| HYDROMORPHONE   |
| HYDROMORPHONE HBR   |
| HYDROMORPHONE HCL   |
| INJECTABLE MIXTURE  |
| MEPERIDINE HCL  |
| METHADONE (for pain)  |
| METHADONE HCL (for pain)  |
| METHOCARBAMOL & ACETAMINOPHEN & CODEINE                                   |
| MORPHINE  |
| MORPHINE HCL  |
| MORPHINE SULFATE  |
| NALBUPHINE HCL  |
| NALOXONE HCL & OXYCODONE HCL  |
| OXYCODONE HCL   |
| PENTAZOCINE HCL   |
| PENTAZOCINE LACTATE   |
| REMIFENTANIL HCL  |
| SUFENTANIL CITRATE  |
| TAPENTADOL HCL  |
| TRAMADOL  |
| TRAMADOL HCL  |
| BENZODIAZEPINE MEDICATIONS: DRUG NAME                                     |
| ALPRAZOLAM  |

|  |
|--|
| BROMAZEPAM   |
| CHLORDIAZEPOXIDE   |
| CHLORDIAZEPOXIDE HCL & CLIDINIUM BROMIDE   |
| CHLORDIAZEPOXIDE HCL & CLIDINIUM HCL   |
| CLOBAZAM   |
| CLONAZEPAM   |
| CLORAZEPATE DIPOTASSIUM  |
| DIAZEPAM   |
| FLURAZEPAM HCL   |
| LORAZEPAM  |
| MIDAZOLAM  |
| MIDAZOLAM HCL  |
| NITRAZEPAM   |
| OXAZEPAM   |
| TEMAZEPAM  |
| TRIAZOLAM  |
| ZOLPIDEM TARTRATE  |
| <b>OPIOID AGONIST THERAPY (OAT): DRUG NAME</b>   |
| BUPRENORPHINE (used for OAT)   |
| BUPRENORPHINE HCL & NALOXONE HCL (used for OAT)  |
| METHADONE HCL (used for OAT)   |
| METHADONE (used for OAT)   |
| METHADONE MIXTURE (used for OAT)   |
| <b>OPIOID CONTAINING COUGH MEDICATIONS: DRUG NAME</b>  |
| ACETAMINOPHEN & CHLORPHENIRAMINE MALEATE & CODEINE PHOSPHATE & PSEUDOEPHEDRINE HCL           |
| AMMONIUM CHLORIDE & CODEINE PHOSPHATE  |
| AMMONIUM CHLORIDE & CODEINE PHOSPHATE & DIPHENHYDRAMINE HCL                                  |
| AMMONIUM CHLORIDE & HYDROCODONE BITARTRATE & PHENYLEPHRINE HCL & PYRILAMINE MALEATE          |
| BROMPHENIRAMINE MALEATE & CODEINE PHOSPHATE & GUAIFENESIN & PHENYLEPHRINE HCL                |
| BROMPHENIRAMINE MALEATE & CODEINE PHOSPHATE & PHENYLEPHRINE HCL                              |
| BROMPHENIRAMINE MALEATE & GUAIFENESIN & HYDROCODONE BITARTRATE & PHENYLEPHRINE HCL           |
| CHLORPHENIRAMINE MALEATE & PSEUDOEPHEDRINE HCL   |
| CITRIC ACID SODIUM & DOXYLAMINE SUCCINATE & ETAFEDRINE HCL & HYDROCODONE BITARTRATE          |
| CODEINE & GUAIFENESIN & PSEUDOEPHEDRINE HCL & TRIPROLIDINE HCL                               |
| CODEINE & PSEUDOEPHEDRINE HCL & TRIPROLIDINE HCL   |
| CODEINE PHOSPHATE & GUAIFENESIN & PHENIRAMINE MALEATE  |
| CODEINE PHOSPHATE & GUAIFENESIN & PSEUDOEPHEDRINE & PSEUDOEPHEDRINE HCL & TRIPROLIDINE HCL   |
| CODEINE PHOSPHATE & GUAIFENESIN & PSEUDOEPHEDRINE HCL  |
| CODEINE PHOSPHATE & PSEUDOEPHEDRINE HCL & TRIPROLIDINE HCL                                   |
| COUGH AND COLD PREP  |
| DIHYDROCODEINE BITARTRATE & DOXYLAMINE SUCCINATE & ETAFEDRINE HCL & ETHANOL & SODIUM CITRATE |
| HYDROCODONE & PHENYLTOLOXAMINE CITRATE   |
| HYDROCODONE BITARTRATE   |
| HYDROCODONE BITARTRATE & PHENYLEPHRINE HCL   |

|   |
|---|
| HYDROCODONE BITARTRATE & PHENYLTOLOXAMINE CHLORIDE            |
| NORMETHADONE HCL & P-HYDROXYEPHEDRINE HCL                     |
| PSEUDOEPHEDRINE HCL & CODEINE PHOSPHATE & GUAIFENESIN         |
| <b>OPIOID-CONTAINING ANTIDIARRHEAL MEDICATIONS: DRUG NAME</b> |
| ATROPINE SULFATE & DIPHENOXYLATE HCL                          |

**Table B: Calculation of morphine equivalents (MEQs)**

Adapted from the Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain 2010 guidelines; available at:

[http://nationalpaincentre.mcmaster.ca/opioid\\_2010/cgop\\_b\\_app\\_b08.html](http://nationalpaincentre.mcmaster.ca/opioid_2010/cgop_b_app_b08.html)

**Oral Opioid Analgesic Equivalence Table**

| OPIOID  | NUMBER Mg   | RATIO (OPIOID:MORPHINE)  |
|---|---|--|
| Morphine  | 30 mg   | 1:1  |
| Codeine   | 200 mg  | 1:0.15   |
| Oxycodone   | 15-20 mg  | 1:1.5  |
| Hydrocodone   | 30 mg   | 1:1  |
| Hydromorphone   | 6-7.5 mg  | 1:5  |
| Meperidine  | 300 mg  | 1:0.1  |
| Tramadol  | 300 mg  | 1:0.1  |
| Methadone   | Dose equivalence between methadone and other opioids has not been reliably established  | Excluded from analyses   |
| Transdermal fentanyl (routeadm is PATCH or TRANS PAD) | <p>12.5mcg/h→30-67morphine*</p> <p>25mcg/h→60-134mg morphine</p> <p>37.5mcg/h→135-179mg morphine</p> <p>50mcg/h→180-224mg morphine</p> <p>75mcg/h→270-314mg morphine</p> <p>100mcg/h→360-404mg morphine</p> <p>If 12.5mcg/h then Fent_Equiv = 1</p> <p>If 25mcg/h then Fent_Equiv = 2</p> <p>If 37.5mcg/h then Fent_equiv=3</p> <p>If 50mcg/h then Fent_equiv=4</p> <p>If 75mcg/h then Fent_equiv=5</p> <p>If 100mcg/h then Fent_equiv=6</p> <p>*12.5 was assumed based on a 3.8 meq/ug</p> | <p>If day supply/quantity=2 then:</p> <p>Fent_equiv=1 → 1:48*2</p> <p>Fent_equiv=2 → 1:97*2</p> <p>Fent_equiv=3 → 1:157*2</p> <p>Fent_equiv=4 → 1:202*2</p> <p>Fent_equiv=5 → 1:292*2</p> <p>Fent_equiv=6 → 1:382*2</p> <p>If day supply/quantity is not equal to 2 then adjust fentanyl day supply when &lt;3 days to equal 3 and use the following conversion:</p> <p>Fent_equiv=1 → 1:48*3</p> <p>Fent_equiv=2 → 1:97*3</p> <p>Fent_equiv=3 → 1:157*3</p> <p>Fent_equiv=4 → 1:202*3</p> <p>Fent_equiv=5 → 1:292*3</p> <p>Fent_equiv=6 → 1:382*3</p> |

|                             |  |         |
|-----------------------------|--|---------|
| Other Fentanyl Formulations | Fentanyl buccal or SL tablets, or lozenge (routeadm= "BUC STRIP" or "TAB SL" or "EFF TAB") | 1: 0.13 |
|                             | Fentanyl film or oral spray (currently not in drug list)                                   | 1: 0.18 |
|                             | Fentanyl nasal spray (currently not in drug list)  | 1: 0.16 |

## Section 2: Cancer Screening

### Percentage of screening eligible patients up-to-date with Papanicolaou (Pap) tests

|                                 |                                   |  |
|---------------------------------|-----------------------------------|--|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>      | This indicator is measuring the percentage of female patients aged 23 to 69 years who had a Pap test within the previous three years.  |
|                                 | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement (PCPM) Framework  |
|                                 | <b>Type</b>                       | Process indicator  |
|                                 | <b>External Alignment</b>         | Ministry of Health and Long-Term Care (MOHLTC) and Cancer Care Ontario (CCO)   |
|                                 | <b>Other reporting</b>            | Cancer Quality Council of Ontario (CQCO), Ministry of Health and MOHLTC Health Analytics Branch - Resource for Indicator standards (RIS)   |
|                                 | <b>Accountability</b>             | Primary Care   |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>           | Percentage   |
|                                 | <b>Calculation</b>                | <p><b>Numerator</b> Number of screen eligible aged 23 to 69 years who had a Pap smear within the past three years</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>Ontario women aged 23-69 years at the index date</li> <li>Index date was defined by service date in OHIP in a three-year period</li> <li>Pap tests identified using fee codes in OHIP (E430, G365a, G394a, L712, or L812, Q678, L713 and L733)</li> <li>Each woman is counted once regardless of the number of Pap tests performed in a three-year period</li> </ul> <p><b>Denominator</b> Total number of screen-eligible women aged 23 to 69 years</p> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>Women with a missing or invalid HCN, date of birth, LHIN or postal code</li> <li>Women with a history of cervical cancer and/or a hysterectomy</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> <p><b>Methods</b></p> $\frac{\text{Number of screen eligible women aged 23 to 69 years who had a Pap smear within the past three years}}{\text{Total number of screen-eligible women aged 23 to 69 years}} \times 100$ |
|                                 |                                   |  |

|                                   |                                    |  |
|-----------------------------------|------------------------------------|--|
|                                   |                                    | <b>Adjustment</b> N/A  |
|                                   | <b>Data source / data elements</b> | <b>Measure source:</b> Cancer Quality Council of Ontario (CQCO), Primary Care Performance Measurement Framework (PCPM)<br><b>Data source:</b> OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), CCO-OCR (Cancer Care Ontario - Ontario Cancer Registry), CIHI (Canadian Institute of Health Information), SDS (Same-day Surgery Database) |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>A small proportion of Pap tests performed as a diagnostic test could not be excluded from the analysis.</li> <li>The indicator does not capture test done in hospital laboratories or paid through alternate payment plans such as out-of-pocket.</li> </ul>  |

### Percentage of screen-eligible patients up-to-date with a mammogram

|  |                                   |   |
|--|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | Percentage of screen eligible female patients aged 52 to 69 years who had a mammogram within the past two years.  |
|  | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement (PCPM) Framework   |
|  | <b>Type</b>                       | Process indicator   |
|  | <b>External Alignment</b>         | Ministry of Health and Long-Term Care (MOHLTC) and Cancer Care Ontario (CCO)  |
|  | <b>Other reporting</b>            | Cancer Quality Council of Ontario (CQCO), Ministry of Health and MOHLTC Health Analytics Branch - Resource for Indicator standards (RIS)  |
|  | <b>Accountability</b>             | Primary Care  |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage  |
|  | <b>Calculation</b>                | <p><b>Numerator</b> Total number of screen-eligible women aged 52 to 69 years, who have completed at least one mammogram in the past two years</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>Ontario women (average risk and high risk) aged 52 to 69 years at the index date</li> <li>Index date was defined as the first screen date per person by screen date in Integrated Client Management System (ICMS) or by service date in OHIP in a two-year period</li> <li>OBSP mammograms for screening purposes were identified in the ICMS; all mammograms in ICMS were counted including those with partial views</li> <li>Non-OBSP mammograms were identified using OHIP fee code (X172 Unilateral screening mammography; X 178 bilateral screening mammography; X185 diagnostic bilateral mammography)</li> <li>Each woman was counted once regardless of the number of mammograms performed in a two-year period; if a woman had both a program and non-program mammogram within a two-year period, the program status was selected</li> <li>Mammograms conducted in outpatient clinics located within hospitals are captured</li> </ul> |
|  |                                   | <p><b>Denominator</b> Total number of screen-eligible women, aged 52 to 69 years</p> <p><b>Excludes:</b></p>  |

|  |   |   |
|--|---|---|
|  |   | <ul style="list-style-type: none"> <li>• Women with a missing or invalid HCN, date of birth or postal code</li> <li>• Women with a history of breast cancer using the diagnostic code (dxcode-174)</li> <li>• Women with a mastectomy before Jan 1st of the two-year period</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
|  |   | <p><b>Methods</b><br/>Total number of screen-eligible women aged 52 to 69 years, who have completed at least one mammogram in the past two years</p> <hr style="width: 80%; margin-left: auto; margin-right: 0;"/> <p style="text-align: right;">X 100</p> <p>Total number of screen-eligible women aged 52 to 69 years</p>   |
|  | <p><b>Data source / data elements</b></p> | <p><b>Adjustment</b> N/A</p> <p><b>Measure source:</b> Cancer Quality Council of Ontario (CQCO), Primary Care Performance Measurement Framework (PCPM)<br/><b>Data source:</b> OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), CCO-OCR (Cancer Care Ontario - Ontario Cancer Registry), CIHI (Canadian Institute of Health Information), SDS (Same-day Surgery Database)</p>   |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>OTHER RELEVANT INFORMATION</b></p> | <p><b>Limitations / Caveats</b></p>       | <ul style="list-style-type: none"> <li>• This indicator is based on OBSP and OHIP data, which have different data update cycles. As a result, mammography rates were underestimated during data periods when OBSP data was not yet available. In addition, in 2010 two additional OHIP fee codes were included to capture mammography rates.</li> </ul>   |

## Percentage of screen-eligible patients up-to-date with colorectal screening

|  |                                    |  |
|--|------------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>       | Percentage of screen eligible patients aged 52 to 74 years who had a FOBT within the past two years, other investigations (i.e., sigmoidoscopy) within the past five years or a colonoscopy within the past 10 years   |
|  | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement (PCPM) Framework  |
|  | <b>Type</b>                        | Process indicator  |
|  | <b>External Alignment</b>          | Ministry of Health and Long-Term Care (MOHLTC) and Cancer Care Ontario (CCO)   |
|  | <b>Other reporting</b>             | Cancer Quality Council of Ontario (CQCO), Ministry of Health and MOHLTC Health Analytics Branch - Resource for Indicator standards (RIS)   |
|  | <b>Accountability</b>              | Primary Care   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>            | Percentage   |
|  | <b>Calculation</b>                 | <p><b>Numerator</b> Number of screen eligible patients aged 52 to 74 years who had a FOBT within past two years, other investigations within five years, or a colonoscopy within the past 10 years</p> <p><b>Includes:</b><br/>Patients who received one of the following:</p> <ul style="list-style-type: none"> <li>• A fecal occult blood testing (L181 or G004, L179, Q152, Q043, Q133) in the past 2 years</li> <li>• A colonoscopy in the previous 10 years (Z491 through Z499, Z555 plus one of E740 or E741 or E747 or E705 on the same day)</li> <li>• A flexible sigmoidoscopy in the previous 5 years (Z491 through Z499, Z555 (without E740 or E741 or E747 or E705 on the same day) or Z580)</li> </ul> <p><b>Denominator</b> Number of screen-eligible patients aged 52 to 74 years</p> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>• Patients with a missing or invalid HCN, date of birth or postal code</li> <li>• Patients who have ever had colon cancer or inflammatory bowel disease</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> <p><b>Methods</b><br/>Number of screen eligible patients aged 52 to 74 years who had a FOBT within past two years, other investigations within five years, or a colonoscopy within the past 10 years X 100</p> <hr/> <p>Number of screen-eligible patients aged 52 to 74 years</p> <p><b>Adjustment</b> N/A</p> |
|  | <b>Data source / data elements</b> | <p><b>Measure source:</b> Cancer Quality Council of Ontario (CQCO), Primary Care Performance Measurement Framework (PCPM)</p> <p><b>Data source:</b> OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), CCO-OCR (Cancer Care Ontario - Ontario Cancer Registry), CIHI (Canadian Institute of Health Information), SDS (Same-day Surgery Database)</p>  |

|                                   |                              |  |
|-----------------------------------|------------------------------|--|
| <b>OTHER RELEVANT INFORMATION</b> | <b>Limitations / Caveats</b> | <ul style="list-style-type: none"> <li>• A small proportion of FOBTs performed as diagnostic tests could not be excluded from the analysis.</li> <li>• FOBTs analyzed in hospital labs could not be captured.</li> </ul> |
|                                   | <b>Comments</b>              | <ul style="list-style-type: none"> <li>• Definition updated in November 2016 to exclude barium enema and rigid sigmoidoscopy to align with CCO's definition.</li> </ul>  |

## Section 3: Diabetes Management

### Percentage of patients with diabetes up-to-date with glycated hemoglobin (HbA1C) tests

|  |                                    |  |   |
|--|------------------------------------|--|---|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>       | Percentage of diabetic patients who have had two or more glycated hemoglobin (HbA1C) tests within the past 12 months   |   |
|  | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement (PCPM) Framework  |   |
|  | <b>Type</b>                        | Process indicator  |   |
|  | <b>External Alignment</b>          | Ontario Diabetes Strategy (ODS), Ministry of Health and Long-Term Care (MOHLTC) Health Analytics Branch - Resource for Indicator standards (RIS), Baseline Diabetes Dataset Initiative (BDDI), Canadian Institute for Health Information (CIHI)  |   |
|  | <b>Other reporting</b>             | N/A  |   |
|  | <b>Accountability</b>              | Primary Care   |   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>            | Percentage   |   |
|  | <b>Calculation</b>                 | <p><b>Numerator</b> Number of diabetic patients who have had two or more glycated hemoglobin (HbA1C) tests within the past 12 months</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>Ontario residents who are identified in the ODD as diabetics in the previous two years</li> <li>HbA1C tests are defined by the OHIP fee code (L093)</li> </ul> <p><b>Denominator</b> Total number of diabetes patients</p> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>Patients who were not residents in Ontario in each year</li> <li>Patients with a missing or invalid HCN, date of birth or postal code</li> <li>Women with gestational diabetes</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> <li>Patients of less than one year of age</li> </ul> <p><b>Methods</b></p> $\frac{\text{Number diabetic patients who have had two or more glycated hemoglobin (HbA1C) tests within the past 12 months}}{\text{Total number of diabetic patients}} \times 100$ |   |
|  |                                    | <b>Adjustment</b> N/A  |   |
|  | <b>Data source / data elements</b> | <p><b>Measure source:</b> Canadian Diabetes Association</p> <p><b>Data source:</b> Ontario Diabetes Database (ODD) [comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), Ontario Drug Benefit Claims (ODB) and Discharge Abstract Database (DAD)], Ontario Drug Benefit Claims (ODB)</p>   |   |
|  | <b>OTHER RELEVANT INFORMATION</b>  | <b>Limitations / Caveats</b>   | <ul style="list-style-type: none"> <li>The ODD does not differentiate between type I and type II diabetes mellitus.</li> <li>HbA1c measure only includes OHIP fee for service hemoglobin A1c tests conducted in community labs. Lab tests for A1c conducted in hospitals are not individually submitted and therefore not available.</li> </ul> |
|  |                                    | <b>Comments</b>  | <b>Click here</b> for further information on the methodology used to generate a diabetes chronic disease cohort from which diabetic patients in this measure are drawn.   |

## Percentage of patients with diabetes up-to-date with a retinal examination

|  |                                   |  |
|--|-----------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | Percentage of diabetic patients who have had at least one retinal exam with an ophthalmologist or optometrist in the past 24 months  |
|  | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement (PCPM) Framework  |
|  | <b>Type</b>                       | Process indicator  |
|  | <b>External Alignment</b>         | Ontario Diabetes Strategy (ODS), Ministry of Health and Long-Term Care (MOHLTC) Health Analytics Branch - Resource for Indicator standards (RIS), Baseline Diabetes Dataset Initiative (BDDI), Canadian Institute for Health Information (CIHI)  |
|  | <b>Other reporting</b>            | N/A  |
|  | <b>Accountability</b>             | Primary Care   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage   |
|  | <b>Calculation</b>                | <p><b>Numerator</b> Number of diabetic patients who have had at least one retinal exam with an ophthalmologist or optometrist in the past 24 months</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• Ontario residents who are identified in the ODD as diabetics in the previous two years</li> <li>• Only includes patients who received a retinal examination in the past two years as defined by the OHIP fee codes: <ul style="list-style-type: none"> <li>○ A111, A112, A114, A115: as long as the treating physician specialty is family medicine, general medicine, or ophthalmologist</li> <li>○ A233, A234, A235, A236, A238, A239, A240, A252, A253, A254, K065, K066: as long as the specialist is an ophthalmologist</li> <li>○ C233, C234, C235, C236: as long as the specialist is an ophthalmologist</li> <li>○ V401, V402, V405, V406, V407, V408, V409, V450, V451: as long as the specialist is an optometrist</li> </ul> </li> </ul> |
|  |                                   | <p><b>Denominator</b> Total number of diabetic patients</p> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>• Patients who were not residents in Ontario in each year</li> <li>• Patients with a missing or invalid HCN, date of birth or postal code</li> <li>• Patients lost to follow-up</li> <li>• Women with gestational diabetes</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> <li>• Patients of less than one year of age</li> </ul>   |
|  |                                   | <p><b>Methods</b></p> <p>Number of diabetes patients who have had at least one retinal exam with an ophthalmologist or optometrist in the past 24 months <span style="float: right;">X 100</span></p> <hr style="width: 80%; margin-left: auto; margin-right: auto;"/> <p style="text-align: center;">Total number of diabetes patients</p>  |
|  |                                   | <b>Adjustment</b> N/A  |

|                            |                                    |   |
|----------------------------|------------------------------------|---|
|                            | <b>Data source / data elements</b> | <b>Measure source:</b> Canadian Diabetes Association<br><b>Data source:</b> Ontario Diabetes Database (ODD) [comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), Ontario Drug Benefit Claims (ODB) and Discharge Abstract Database (DAD)], Ontario Drug Benefit Claims (ODB)   |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>• ODD does not differentiate between Type I and II cases.</li> <li>• Only includes retinal eye exams where a fee-for-service claim was submitted. Exams that were paid out-of-pocket by the patient are not included. Some providers (i.e. ophthalmologists in alternate payment plans) may not submit claims.</li> <li>• The percent of patients receiving exams may be underestimated in areas where there are a larger proportion of non FFS providers conducting retinal eye exams.</li> </ul> |
|                            | <b>Comments</b>                    | <b>Click here</b> for further information on the methodology used to generate a diabetes chronic disease cohort from which diabetic patients in this measure are drawn.   |

### Percentage of patients with diabetes up-to-date with an ACE inhibitor or ARB prescription

|                                 |  |  |
|---------------------------------|--|--|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>   | Percentage of diabetic patients aged 66 years and older who have been prescribed an angiotensin converting enzyme (ACE) inhibitor or angiotensin II receptor blocker (ARB) within the past 12 months   |
|                                 | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement (PCPM) Framework  |
|                                 | <b>Type</b>  | Process indicator  |
|                                 | <b>External Alignment</b>  | Ontario Diabetes Strategy (ODS), Canadian Institute for Health Information (CIHI), Canadian Diabetes Association (CDA)   |
|                                 | <b>Other reporting</b>   | N/A  |
|                                 | <b>Accountability</b>  | Primary Care   |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>  | Percentage   |
|                                 | <b>Calculation</b>   | <b>Numerator</b> Number of diabetic patients aged 65 years and older with a prescription for an ACE inhibitor or ARB within the past 12 months   |
|                                 |  | <b>Denominator</b> Total number of diabetes patients aged 65 years and older in your practice  |
|                                 |  | <b>Excludes:</b> <ul style="list-style-type: none"> <li>• Patients who were not residents in Ontario in each year</li> <li>• Patients with a missing or invalid HCN, date of birth or postal code</li> <li>• Age on index date in each corresponding year exams: under 65 years</li> <li>• Patients lost to follow-up</li> <li>• Women with gestational diabetes</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
|                                 | <b>Methods</b><br>Number of diabetic patients aged 66 years and older with a prescription for an ACE inhibitor or ARB within the past 12 months X 100<br><hr/> Total number of diabetes patients aged 66 years and older |  |

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
| <b>OTHER RELEVANT INFORMATION</b> |                                    | <b>Adjustment</b> N/A   |
|                                   | <b>Data source / data elements</b> | <b>Measure source:</b> Canadian Diabetes Association<br><b>Data source:</b> Ontario Diabetes Database (ODD) [comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), Ontario Drug Benefit Claims (ODB) and Discharge Abstract Database (DAD)], Ontario Drug Benefit Claims (ODB) |
|                                   | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>Only able to capture prescribed medication data for patients age 66 and older from ODB</li> <li>ODD does not differentiate between Type I and II cases</li> </ul>  |
|                                   | <b>Comments</b>                    | <b>Click here</b> for further information on the methodology used to generate a diabetes chronic disease cohort from which diabetic patients in this measure are drawn.   |

### Percentage of patients with diabetes up-to-date with a Statin prescription

|  |                                   |  |
|--|-----------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | Percentage of diabetic patients aged 66 years and older who have been prescribed a statin within the past 12 months<br><small>* Please refer to the comments section for a definition of a patient with diabetes.</small>  |
|  | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement (PCPM) Framework  |
|  | <b>Type</b>                       | Process indicator  |
|  | <b>External Alignment</b>         | Ontario Diabetes Strategy (ODS), Canadian Institute for Health Information (CIHI), Canadian Diabetes Association (CDA)   |
|  | <b>Other reporting</b>            | N/A  |
|  | <b>Accountability</b>             | Primary Care   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage   |
|  | <b>Calculation</b>                | <p><b>Numerator</b> Number of diabetes patients in your practice aged 65 years and older with a prescription for a statin within the past 12 months</p> <p><b>Denominator</b> Total number of diabetes patients aged 65 years and older in your practice</p> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>Patients who were not residents in Ontario in each year</li> <li>Patients with a missing or invalid HCN, date of birth or postal code</li> <li>Age on index date in each corresponding year exams: &lt;65 years</li> <li>Patients lost to follow-up</li> <li>Women with gestational diabetes</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
|  | <b>Methods</b>                    | $\frac{\text{Number of diabetic patients aged 66 years and older with a prescription for a statin within the past 12 months}}{\text{Total number of diabetic patients aged 66 years and older}} \times 100$  |

|                            |                                    |   |
|----------------------------|------------------------------------|---|
|                            |                                    | <b>Adjustment</b> N/A   |
|                            | <b>Data source / data elements</b> | <b>Measure source:</b> CDA<br><b>Data Source:</b> Ontario Diabetes Database (ODD) [comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), Ontario Drug Benefit Claims (ODB) and Canadian Institute for Health Information (CIHI)] |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>Only able to capture prescribed medication data for patients age 66 and older from ODB</li> <li>ODD does not differentiate between Type I and II cases</li> </ul>  |
|                            | <b>Comments</b>                    | <b>Click here</b> for further information on the methodology used to generate a diabetes chronic disease cohort from which diabetic patients in this measure are drawn.   |

## Section 4: Health Service Utilization

### Rate of total hospital emergency department (ED) visits per 1,000 patients

|                                 |                                   |  |
|---------------------------------|-----------------------------------|--|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>      | Adjusted and unadjusted rate of ED visits measured as level 1-5 on the Canadian Triage Acuity Scale (CTAS) per 1,000 patients  |
|                                 | <b>HQO Reporting tool/product</b> | N/A  |
|                                 | <b>Type</b>                       | Outcome indicator  |
|                                 | <b>External Alignment</b>         | N/A  |
|                                 | <b>Other reporting</b>            | N/A  |
|                                 | <b>Accountability</b>             | Primary Care, Acute Care   |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>           | Rate per 1,000 patients  |
|                                 | <b>Calculation</b>                | <p><b>Numerator</b></p> <p>Number of ED visits for conditions measured as CTAS level 1, 2, 3, 4 or 5 in the previous year</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li><b>CTAS level 1:</b> Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate aggressive interventions</li> <li><b>CTAS level 2:</b> Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or delegated acts</li> <li><b>CTAS level 3:</b> Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affecting ability to function at work or activities of daily living</li> <li><b>CTAS level 4:</b> Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1–2 hours</li> <li><b>CTAS level 5:</b> Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration<sup>1</sup></li> </ul> <p><b>Exclusion Criteria:</b></p> <ul style="list-style-type: none"> <li>Visits with an inpatient admission</li> </ul> |
|                                 |                                   | <p><b>Denominator</b></p> <p>Total number of patients in the previous year</p>   |

|                            |                                    |  |
|----------------------------|------------------------------------|--|
|                            |                                    | <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>• Patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>   |
|                            |                                    | <p><b>Methods</b></p> $\frac{\text{Number of visits to the ED for conditions measured as CTAS level 1, 2, 3, 4 or 5 in the previous year}}{\text{Total number of patients the previous year}} \times 1,000$  |
|                            |                                    | <p><b>Adjustment</b></p> <p>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams</p> |
|                            | <b>Data source / data elements</b> | <p><b>Measure source:</b><br/><b>Data source:</b> Canadian Institute for Health Information (CIHI) – National Ambulatory Care Reporting System (NACRS)</p>   |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | N/A  |
|                            | <b>Sources</b>                     | 1. National Ambulatory Care Reporting System (NACRS). "Emergency Department Trends, 2012-2013". <i>Canadian Institute for Health Information (CIHI)</i> .  |

### Rate of urgent hospital emergency department (ED) visits per 1,000 patients

|                                 |                                   |   |
|---------------------------------|-----------------------------------|---|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>      | Adjusted and unadjusted rate of urgent ED visits measured as level 1-3 on CTAS per 1,000 patients   |
|                                 | <b>HQO Reporting tool/product</b> | N/A   |
|                                 | <b>Type</b>                       | Outcome indicator   |
|                                 | <b>External Alignment</b>         | N/A   |
|                                 | <b>Other reporting</b>            | N/A   |
|                                 | <b>Accountability</b>             | Primary Care, Acute Care  |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>           | Rate per 1,000 patients   |
|                                 | <b>Calculation</b>                | <p><b>Numerator</b></p> <p>Number ED visits for conditions measured as CTAS level 1, 2, or 3 in the previous year</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• <b>CTAS level 1:</b> Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate</li> <li>• aggressive interventions</li> <li>• <b>CTAS level 2:</b> Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or</li> <li>• delegated acts</li> </ul> |

|                            |                              |  |
|----------------------------|------------------------------|--|
|                            |                              | <ul style="list-style-type: none"> <li>• <b>CTAS level 3:</b> Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affecting ability to function at work or activities of daily living<sup>1</sup></li> </ul> <p><b>Exclusion Criteria:</b></p> <ul style="list-style-type: none"> <li>• Visits with an inpatient admission</li> <li>• Visits with CTAS 4, or 5 and planned emergency visits</li> </ul>  |
|                            |                              | <p><b>Denominator</b><br/>Total number of patients in the previous year</p> <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>• Patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>   |
|                            |                              | <p><b>Methods</b><br/>Number of visits to the ED for conditions measured as CTAS level 1, 2, or 3 in the previous year</p> <hr/> <p style="text-align: right;">X 1,000</p> <p>Total number of patients in the previous year</p>  |
|                            |                              | <p><b>Adjustment</b><br/>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams.</p> |
|                            |                              | <p><b>Data source / data elements</b></p>  |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b> | N/A  |
|                            | <b>Comments</b>              | N/A  |
|                            | <b>Sources</b>               | 1. National Ambulatory Care Reporting System (NACRS). "Emergency Department Trends, 2012-2013". <i>Canadian Institute for Health Information (CIHI)</i> .  |

### Rate of less urgent hospital emergency department (ED) visits per 1,000 patients

|                       |                                   |   |
|-----------------------|-----------------------------------|---|
| INDICATOR DESCRIPTION | <b>Indicator description</b>      | Adjusted and unadjusted rate of less urgent ED visits measured as level 4-5 on CTAS per 1,000 patients            |
|                       | <b>HQO Reporting tool/product</b> | N/A   |
|                       | <b>Type</b>                       | Outcome indicator   |
|                       | <b>External Alignment</b>         | N/A   |
|                       | <b>Other reporting</b>            | N/A   |
|                       | <b>Accountability</b>             | Primary Care, Acute Care  |
| DEFINITION & SOURCE   | <b>Unit of analysis</b>           | Rate per 1,000 patients   |
|                       | <b>Calculation</b>                | <p><b>Numerator</b><br/>Number of ED visits for conditions measured as CTAS level 4 or 5 in the previous year</p> |

|                            |                                    |  |
|----------------------------|------------------------------------|--|
|                            |                                    | <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• <u>CTAS level 4:</u> Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1 –2 hours</li> <li>• <u>CTAS level 5:</u> Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration<sup>1</sup></li> </ul> <p><b>Exclusion Criteria:</b></p> <ul style="list-style-type: none"> <li>• Visits with an inpatient admission</li> <li>• Visits with CTAS 1, 2 or 3 and planned emergency visits</li> </ul> |
|                            |                                    | <p><b>Denominator</b><br/>Total number of patients in the previous year</p> <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>• Excludes patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>  |
|                            |                                    | <p><b>Methods</b><br/>Number of visits to the ED for conditions measured as<br/>CTAS level 4 or 5 in the previous year</p> <hr/> <p style="text-align: right;">X 1,000</p> <p>Total number of patients in the previous year</p>  |
|                            |                                    | <p><b>Adjustment</b><br/>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams.</p>                                   |
|                            | <b>Data source / data elements</b> | <b>Measure source:</b><br><b>Data source:</b> Canadian Institute for Health Information (CIHI) – National Ambulatory Care Reporting System (NACRS)   |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | N/A  |
|                            | <b>Comments</b>                    | N/A  |
|                            | <b>Sources</b>                     | 1. National Ambulatory Care Reporting System (NACRS). “Emergency Department Trends, 2012-2013”. <i>Canadian Institute for Health Information (CIHI)</i> .  |

### Percentage of hospital readmissions within 30 days

|                       |                                   |  |
|-----------------------|-----------------------------------|--|
| INDICATOR DESCRIPTION | <b>Indicator description</b>      | Percentage of patients who were re-admitted to a hospital for urgent and emergent care within 30 days of discharge (adjusted and unadjusted percentages) |
|                       | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement (PCPM) Framework  |
|                       | <b>Type</b>                       | Process  |
|                       | <b>External Alignment</b>         | N/A  |
|                       | <b>Other reporting</b>            | N/A  |

|  |  |   |
|--|--|---|
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Accountability</b>  | Primary Care, Acute Care  |
|  | <b>Unit of analysis</b>  | Percentage  |
|  | <b>Calculation</b>   | <b>Numerator</b><br>Number of readmissions to a hospital for urgent and emergent care within 30 days of discharge<br><br>Note: Hospital readmission is readmission to any acute care hospital in the province for any condition, including a different condition than the reason for their original hospital admission <sup>1</sup>   |
|  |  | <b>Denominator</b><br>Total number of patients discharged from a hospital<br>Exclusions:<br><ul style="list-style-type: none"> <li>Excludes patients of less than one year of age</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>   |
|  | <b>Methods</b>   | $\frac{\text{Number of readmissions to a hospital for urgent and emergent care within 30 days of discharge}}{\text{Total number of patients discharged from a hospital}} \times 100$  |
|  | <b>Adjustment</b>  | This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams. |
| <b>Data source / data elements</b>         | <b>Measure source:</b> Primary Care Performance Measurement (PCPM) Framework<br><b>Data source:</b> Canadian Institute for Health Information (CIHI) – Discharge Abstract Database (DAD) |   |
| <b>OTHER RELEVANT INFORMATION</b>          | <b>Limitations / Caveats</b>   | <ul style="list-style-type: none"> <li>Data from the DAD only pertains to patients who are readmitted to the same institution. Those who are discharged and subsequently admitted to other institutions will not be captured by this field (Health Analyst's Toolkit, 2012)</li> </ul>  |
|  | <b>Comments</b>  |   |
|  | <b>Sources</b>   | 1. Goldfield, N. (2011). How important is it to identify avoidable hospital readmissions with certainty? CMAJ, 19;183(7):E368-9. Epub 2011 Mar 28.  |

### Percentage of hospital readmissions within 1 year

|                              |                                   |   |
|------------------------------|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b> | <b>Indicator description</b>      | Percentage of patients who were re-admitted to a hospital for urgent and emergent care within 1 year of discharge (adjusted and unadjusted percentages) |
|                              | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement (PCPM) Framework   |
|                              | <b>Type</b>                       | Process   |
|                              | <b>External Alignment</b>         | N/A   |
|                              | <b>Other reporting</b>            | N/A   |
|                              | <b>Accountability</b>             | Primary Care, Acute Care  |

|  |                                    |   |
|--|------------------------------------|---|
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>            | Percentage  |
|  | <b>Calculation</b>                 | <p><b>Numerator</b><br/>Number of readmissions to a hospital for urgent and emergent care within 1 year of discharge</p> <p>Note: Hospital readmissions is readmission to any acute care hospital in the province for any condition, including a different condition than the reason for their original hospital admission<sup>1</sup></p> <p><b>Denominator</b><br/>Total number of patients discharged from a hospital<br/>Exclusions:</p> <ul style="list-style-type: none"> <li>• Excludes patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> <p><b>Methods</b><br/> <math display="block">\frac{\text{Number of readmissions to a hospital for urgent and emergent care within 1 year of discharge}}{\text{Total number of patients discharged from a hospital}} \times 100</math></p> <p><b>Adjustment</b><br/>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams.</p> |
|  | <b>Data source / data elements</b> | <p><b>Measure source:</b> Primary Care Performance Measurement (PCPM) Framework<br/> <b>Data source:</b> Canadian Institute for Health Information (CIHI) – Discharge Abstract Database (DAD)</p>   |
|  | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>• Data from the DAD only pertains to patients who are readmitted to the same institution. Those who are discharged and subsequently admitted to other institutions will not be captured by this field (Health Analyst's Toolkit, 2012)</li> </ul>  |
|  | <b>Comments</b>                    | N/A   |
| <b>OTHER RELEVANT INFORMATION</b>          | <b>Sources</b>                     | 1. Goldfield, N. (2011). How important is it to identify avoidable hospital readmissions with certainty? CMAJ, 19;183(7):E368-9. Epub 2011 Mar 28.  |

### ACSC Admissions: Total

|                              |                                   |   |
|------------------------------|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b> | <b>Indicator description</b>      | Adjusted rate of hospital admissions for one or more of the following conditions: asthma, CHF, COPD and diabetes per 1,000 patients       |
|                              | <b>HQO Reporting tool/product</b> | N/A   |
|                              | <b>Type</b>                       | Outcome indicator   |
|                              | <b>External Alignment</b>         | Quality Improvement Plans (QIPs)  |
|                              | <b>Other reporting</b>            | Ministry of Health and Long-Term Care (MOHLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI) |
|                              | <b>Accountability</b>             | Primary Care, Acute Care  |

|  |                                    |   |
|--|------------------------------------|---|
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>            | Per 1000 patients   |
|  | <b>Calculation</b>                 | <p><b>Numerator</b><br/>The number of acute care hospital admissions for the following ACSCs: asthma, COPD, CHF, or diabetes (see codes below) in the previous year</p> <p><b>Includes</b> (by ICD 10 diagnosis):</p> <ul style="list-style-type: none"> <li>• All acute care hospital admissions with ICD 10 code(s) for <ul style="list-style-type: none"> <li>○ <u>Asthma</u>: codes beginning with J45</li> <li>○ <u>COPD</u>: J41, J42, J43, J44, J47</li> <li>○ <u>CHF</u>: I500, J81; excluding cases with cardiac procedures and that are not coded as abandoned on onset</li> <li>○ <u>Diabetes</u>: E10.1, E10.6, E10.7, E10.9, E11.0, E11.1, E11.6, E11.7, E11.9, E13.0, E13.1, E13.6, E13.7, E13.9, E14.0, E14.1, E14.6, E14.7, E14.9</li> </ul> </li> </ul> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>• In-hospital complications</li> <li>• Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54</li> <li>• Cases where death occurs before discharge</li> <li>• Excludes patients of less than one year of age</li> </ul> |
|  |                                    | <p><b>Denominator</b><br/>Total number of patients in the previous year</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>• Excludes patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>  |
|  |                                    | <p><b>Methods</b><br/>The number of acute care hospital admissions for one or more of the following conditions: asthma, CHF, COPD and diabetes in the previous year</p> <hr style="width: 80%; margin-left: auto; margin-right: 0;"/> <p style="text-align: right;">X 1,000</p> <p style="text-align: center;">Total number of patients</p>   |
|  |                                    | <p><b>Adjustment</b><br/>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams.</p>  |
|  | <b>Data source / data elements</b> | <p><b>Measure source:</b> Canadian Institute of Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)</p> <p><b>Data source:</b> Canadian Institute for Health Information Discharge Abstract Database (CIHI DAD)</p>   |
|  | <b>Limitations / Caveats</b>       |   |

|  |                 |  |
|--|-----------------|--|
|  | <b>Comments</b> |  |
|--|-----------------|--|

## ACSC Admissions: Asthma

|  |                                    |  |
|--|------------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>       | Adjusted rate of hospital admissions for asthma per 1,000 patients   |
|  | <b>HQO Reporting tool/product</b>  | N/A  |
|  | <b>Type</b>                        | Outcome indicator  |
|  | <b>External Alignment</b>          | Quality Improvement Plans (QIPs)   |
|  | <b>Other reporting</b>             | Ministry of Health and Long-Term Care (MOHLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)  |
|  | <b>Accountability</b>              | Primary Care, Acute Care   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>            | Per 1000 patients  |
|  | <b>Calculation</b>                 | <p><b>Numerator</b><br/>The number of acute care hospital admissions for asthma (see codes below) in the previous year</p> <p><b>Includes</b></p> <ul style="list-style-type: none"> <li>Hospital admissions with ICD 10 code(s) for asthma (codes beginning with J45)</li> </ul> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>In-hospital complications</li> <li>Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54</li> <li>Cases where death occurs before discharge</li> <li>Excludes patients of less than one year of age</li> </ul> <p><b>Denominator</b><br/>Total number of patients</p> <p>Exclusion:</p> <ul style="list-style-type: none"> <li>Excludes patients of less than one year of age</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> <p><b>Methods</b><br/>The number of acute care hospital admissions for asthma in the previous year</p> $\frac{\text{Total number of patients}}{\text{Total number of patients}} \times 1,000$ <p><b>Adjustment</b><br/>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams.</p> |
|  | <b>Data source / data elements</b> | <b>Measure source:</b> Canadian Institute of Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)   |

|                            |                              |  |
|----------------------------|------------------------------|--|
|                            |                              | <b>Data source:</b> Canadian Institute for Health Information Discharge Abstract Database (CIHI DAD) |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b> | N/A  |
|                            | <b>Comments</b>              | N/A  |

### ACSC Admissions: CHF

|                                 |                                   |  |
|---------------------------------|-----------------------------------|--|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>      | Adjusted rate of hospital admissions for CHF per 1,000 patients  |
|                                 | <b>HQO Reporting tool/product</b> | N/A  |
|                                 | <b>Type</b>                       | Outcome indicator  |
|                                 | <b>External Alignment</b>         | Quality Improvement Plans (QIPs)   |
|                                 | <b>Other reporting</b>            | Ministry of Health and Long-Term Care (MOHLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)  |
|                                 | <b>Accountability</b>             | Primary Care, Acute Care   |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>           | Per 1000 patients  |
|                                 | <b>Calculation</b>                | <p><b>Numerator</b><br/>The number of acute care hospital admissions for CHF (see codes below) in the previous year</p> <p><b>Includes</b></p> <ul style="list-style-type: none"> <li>Hospital admissions with ICD 10 code(s) for CHF (I500, J81); excluding cases with cardiac procedures and that are not coded as abandoned on onset</li> </ul> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>In-hospital complications</li> <li>Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54</li> <li>Cases where death occurs before discharge</li> <li>Excludes patients of less than one year of age</li> </ul> <p><b>Denominator</b><br/>Total number of patients &gt;1 year of age as of March 31<sup>st</sup> the previous year</p> <p>Exclusion:</p> <ul style="list-style-type: none"> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
|                                 | <b>Methods</b>                    | <p>The number of acute care hospital admissions for CHF in the previous year</p> <hr/> <p>Total number of patients X 1,000</p>   |
|                                 | <b>Adjustment</b>                 | This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to  |

|                            |                                    |   |
|----------------------------|------------------------------------|---|
|                            |                                    | inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams. |
|                            | <b>Data source / data elements</b> | <b>Measure source:</b> Canadian Institute of Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)<br><b>Data source:</b> Canadian Institute for Health Information Discharge Abstract Database (CIHI DAD)      |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | N/A   |
|                            | <b>Comments</b>                    | N/A   |

### ACSC Admissions: COPD

|                                 |                                   |   |
|---------------------------------|-----------------------------------|---|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>      | Adjusted rate of hospital admissions for COPD per 1,000 patients  |
|                                 | <b>HQO Reporting tool/product</b> | N/A   |
|                                 | <b>Type</b>                       | Outcome indicator   |
|                                 | <b>External Alignment</b>         | Quality Improvement Plans (QIPs)  |
|                                 | <b>Other reporting</b>            | Ministry of Health and Long-Term Care (MOHLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)   |
|                                 | <b>Accountability</b>             | Primary Care, Acute Care  |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>           | Per 1000 patients   |
|                                 | <b>Calculation</b>                | <p><b>Numerator</b><br/>The number of acute care hospital admissions for COPD (see codes below) in the previous year</p> <p><b>Includes</b></p> <ul style="list-style-type: none"> <li>Hospital admissions with ICD 10 code(s) for COPD (J41, J42, J43, J44, J47)</li> </ul> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>In-hospital complications</li> <li>Admissions with the following CCI codes: 11J50, 11J76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54</li> <li>Cases where death occurs before discharge</li> </ul> |
|                                 |                                   | <p><b>Denominator</b><br/>Total number of patients</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>Excludes patients of less than one year of age</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>   |
|                                 |                                   | <p><b>Methods</b><br/>The number of acute care hospital admissions for COPD in the previous year <span style="float: right;">X 1,000</span></p> <hr style="width: 80%; margin-left: 0;"/> <p style="text-align: center;">Total number of patients</p>   |

|                            |                                    |  |
|----------------------------|------------------------------------|--|
|                            |                                    | <p><b>Adjustment</b><br/>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams.</p> |
|                            | <b>Data source / data elements</b> | <p><b>Measure source:</b> Canadian Institute of Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)<br/><b>Data source:</b> Canadian Institute for Health Information Discharge Abstract Database (CIHI DAD)</p>   |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | N/A  |
|                            | <b>Comments</b>                    | N/A  |

### ACSC Admissions: Diabetes

|                                 |                                   |   |
|---------------------------------|-----------------------------------|---|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>      | Adjusted rate of hospital admissions for diabetes per 1,000 patients  |
|                                 | <b>HQO Reporting tool/product</b> | Health Quality Ontario Quality Improvement Plans (QIPs)<br>N/A  |
|                                 | <b>Type</b>                       | Outcome indicator   |
|                                 | <b>External Alignment</b>         | N/A   |
|                                 | <b>Other reporting</b>            | Ministry of Health and Long-Term Care (MOHLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)   |
|                                 | <b>Accountability</b>             | Primary Care, Acute Care  |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>           | Per 1000 patients   |
|                                 | <b>Calculation</b>                | <p><b>Numerator</b><br/>The number of acute care hospital admissions for diabetes (see codes below) in the previous year</p> <p><b>Includes</b></p> <ul style="list-style-type: none"> <li>Hospital admissions with ICD 10 code(s) for diabetes: E10.1, E10.6, E10.7, E10.9, E11.0, E11.1, E11.6, E11.7, E11.9, E13.0, E13.1, E13.6, E13.7, E13.9, E14.0, E14.1, E14.6, E14.7, E14.9</li> </ul> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>In-hospital complications</li> <li>Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54</li> <li>Cases where death occurs before discharge</li> </ul> <p><b>Denominator</b><br/>Total number of patients</p> |

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
|                                   |                                    | <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>Excludes patients of less than one year of age</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>   |
|                                   |                                    | <p><b>Methods</b></p> <p>The number of acute care hospital admissions for diabetes in the previous year _____ X 1,000</p> <p>_____ Total number of patients</p>   |
|                                   |                                    | <p><b>Adjustment</b></p> <p>This indicator has been risk adjusted for age, sex, income (neighborhood income), rurality and co-morbidities (number of ADGs). Risk adjustment takes into account the differences among patient populations to allow for fairer comparisons between your patients and other populations. Unadjusted data is also provided to inform quality improvement efforts. The reference population for adjustment for groups is all groups and for Family Health Teams is all Family Health Teams. Hence adjusted indicators rates are expected to be different between groups and Family Health Teams.</p> |
|                                   | <b>Data source / data elements</b> | <p><b>Measure source:</b> Canadian Institute for Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)</p> <p><b>Data source:</b> Canadian Institute for Health Information Discharge Abstract Database (CIHI DAD)</p>  |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Limitations / Caveats</b>       | N/A   |
|                                   | <b>Comments</b>                    | N/A   |

### Percentage of visits to own physician

|                                |                                   |   |
|--------------------------------|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>   | <b>Indicator description</b>      | The percentage of primary care visits by patients rostered or virtually rostered to the physician   |
|                                | <b>Relevance/Rationale</b>        | This indicator is used to measure the accessibility of the physician by his or her rostered patients. The goal would be to maximize this proportion to, or as close to, 100% as possible. |
|                                | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement Framework (PCPM)   |
|                                | <b>Type</b>                       | Outcome indicator   |
|                                | <b>External Alignment</b>         | N/A   |
|                                | <b>Other reporting</b>            | N/A   |
|                                | <b>Accountability</b>             | Primary Care  |
| <b>DEFINITION &amp; SOURCE</b> | <b>Unit of analysis</b>           | Percentage  |
|                                | <b>Calculation</b>                | <p><b>Numerator</b></p> <p>The number of primary care visits to the physician in the past two years by patients rostered or virtually rostered to the physician</p>                       |

|                                   |                              |   |
|-----------------------------------|------------------------------|---|
|                                   |                              | <p><b>Denominator</b><br/>Total number of primary care visits in the system in the past two years by patients rostered or virtually rostered to the physician</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>• Patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
|                                   |                              | <p><b>Methods</b><br/>The number of primary care visits to the physician in the past two years by patients rostered or virtually rostered to the physician</p> <hr/> <p>Total number of primary care visits in the system in the past two years by patients rostered or virtually rostered to the physician</p> <p style="text-align: right;">X 100</p>   |
|                                   |                              | <p><b>Adjustment</b><br/>This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time.</p>  |
|                                   | <b>Data Sources</b>          | Ontario Health Insurance Plan (OHIP), Client Agency Program Enrolment (CAPE)  |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Limitations / Caveats</b> | N/A   |

## Section 5: Chronic Disease Cohorts

### Chronic Disease Cohort Generation

#### Hypertension

The case-definition algorithm to identify patients with hypertension links the Discharge Abstract Database (DAD) and the Ontario Health Insurance Plan (OHIP). Hypertension is said to be present if an individual had one hospital admission with a hypertension diagnosis (CIHI ICD-9 dx codes: 401x, 402x, 403x, 404x, or 405x; CIHI ICD-10 dx10codes: I10, I11, I12, I13, or I15), or an OHIP claim with a hypertension diagnosis (OHIP dx codes: 401, 402, 403, 404, or 405) followed within two years by either an OHIP claim or a hospital admission with a hypertension diagnosis. The administrative data case-definition algorithm has a sensitivity of 72%, specificity of 95%, positive predictive value of 87% and negative predictive value of 87%.<sup>1</sup>

#### Congestive Heart Failure (CHF)

<sup>1</sup> Tu, K., Campbell, N. R., Chen, Z. L., Cauch-Dudek, K. J., & McAlister, F. A. (2007). Accuracy of administrative databases in identifying patients with hypertension. *Open Medicine*, 1(1), e18.

The case-definition algorithm to identify patients with CHF links different databases at ICES National Ambulatory Care Reporting System (NACRS), and OHIP and is based on one hospital inpatient record with a CHF diagnosis (as defined by ICD 9 code: 428 or ICD10 codes: I500, I501, I509) or one ambulatory care record with a CHF diagnosis followed by a second record with a CHF diagnosis from any source within one year. The administrative data case-definition algorithm for CHF has a sensitivity of 85%, a specificity of 97%, and a PPV of 56%.<sup>2</sup>

### **Acute Myocardial Infarction (AMI)**

The case-definition algorithm to identify patients with AMI links different databases at ICES DAD, ICES SDS and OHIP and is based on the most responsible diagnostic codes to indicate that a patient had an MI (ICD 9 code: 410, or ICD 10 code: I21). The administrative data case-definition algorithm for AMI has a sensitivity of 80%, a specificity of 98%, and a PPV of 70%.<sup>3</sup>

### **Mental Health Diagnosis**

The case-definition algorithm to identify patients with a mental health diagnosis links different databases at ICES DAD and OHIP and is based on having two physician billing claims in OHIP over 2 years or one hospitalization with one of the listed mental health service codes (ICD 9 codes: for mental health services: K005, K007, K623; psychotic disorders (excluding dementia and delirium): 295x, 296x, 297x, 298x; non-psychotic disorders: 300x, 301x, 302x, 306x, 309x, 311x; substance-use disorders: 303x, 304x; other family circumstances or social problems: V61.10, V61.1, V61.2, V61.3, V61.3, V61.03, V62.4, V62.2, V62.5 or 897, 898, 899, 900, 901, 902, 904, 905, 906; 909 ICD 10 codes: F10-F99 (excluding dementia and delirium and F50.0, F50.1, F50.2, F50.3, F50.8, F50.9)). The administrative data case-definition algorithm for mental health has a sensitivity of 81%, a specificity of 97%, and a PPV of 85%.<sup>4</sup>

### **Diabetes**

The algorithm to identify patients with diabetes links different databases at ICES and is based on having two physician claims with a diagnostic code for diabetes (Dx Code 250) or one OHIP fee code for diabetes management, insulin therapy support, diabetic management assessment codes claim (Q040, K029, K030, K045, K046) or one hospitalisation with a diagnostic code of diabetes within 2 years. Gestational diabetes is excluded from this definition based on the following algorithm: Whenever there was a hospital record with a diagnosis of pregnancy care or delivery between 120 days before and 180 days after a gestational admission date, the diabetic record was considered to be for gestational diabetes, and it was excluded. The administrative data case-definition algorithm for diabetes has a sensitivity of 86% and specificity of 97%.<sup>5</sup>

---

<sup>2</sup> Schultz, S. E., Rothwell, D. M., Chen, Z., & Tu, K. (2013). Identifying cases of congestive heart failure from administrative data: a validation study using primary care patient records. *managed-care*, 10, 11.

<sup>3</sup> Tu, K., Mitiku, T., Guo, H., Lee, D. S., & Tu, J. V. (2010). Myocardial infarction and the validation of physician billing and hospitalization data using electronic medical records. *Chronic diseases in Canada*, 30(4), 141-146.

<sup>4</sup> Steele, L. S., Glazier, R. H., Lin, E., & Evans, M. (2004). Using administrative data to measure ambulatory mental health service provision in primary care. *Medical care*, 42(10), 960-965.

<sup>5</sup> Hux JE, Ivis F, Flintoft V, Bica A. Diabetes in Ontario: determination of prevalence and incidence using a validated administrative data algorithm. *Diabetes Care* 2002; 25:512–516

## Chronic Disease Cohorts - Hypertension

|                                    |  |  |
|------------------------------------|--|--|
| INDICATOR DESCRIPTION              | <b>Indicator description</b>   | Percentage of patients with hypertension   |
|                                    | <b>HQO Reporting tool/product</b>  | N/A  |
|                                    | <b>Type</b>  | Outcome indicator  |
|                                    | <b>External Alignment</b>  | N/A  |
|                                    | <b>Other reporting</b>   | N/A  |
|                                    | <b>Accountability</b>  | Primary Care   |
| DEFINITION & SOURCE INFORMATION    | <b>Unit of analysis</b>  | Percentage   |
|                                    | <b>Calculation</b>   | <b>Numerator</b><br>Number of patients with hypertension   |
|                                    |  | <b>Denominator</b><br>Total number of rostered or virtually rostered patients as of March 31 <sup>st</sup> the previous year   |
|                                    |  | Exclusions: <ul style="list-style-type: none"> <li>Patients of less than one year of age</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>   |
|                                    |  | <b>Methods</b><br>$\frac{\text{Number of patients with hypertension}}{\text{Total number of patients as of March 31}^{\text{st}} \text{ the previous year}} \times 100$  |
|                                    | <b>Adjustment</b><br>This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time. |  |
| <b>Data source / data elements</b> | The Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP) physician billing claims              |  |
| OTHER RELEVANT INFORMATION         | <b>Limitations / Caveats</b>   | Does not capture patients whose date of last contact not within 7 years of index   |
|                                    | <b>Comments</b>  | A patient is said to have hypertension if they have 2 physician billing claims or 1 hospital discharge with a diagnosis of hypertension in a 2-year period that had the following ICD 9 codes: 401.x, 402.x, 403.x, 404.x, or 405.x or the following ICD 10 codes: I10.x, I11.x, I12.x, I13.x, or I15.x<br><br><a href="#">Click here</a> for further information on how this cohort was generated |

## Chronic Disease Cohorts – Congestive Heart Failure (CHF)

|                       |                                   |   |
|-----------------------|-----------------------------------|---|
| INDICATOR DESCRIPTION | <b>Indicator description</b>      | Percentage of patients with CHF by the physician, group, LHIN and the province. |
|                       | <b>HQO Reporting tool/product</b> | N/A   |
|                       | <b>Type</b>                       | Outcome indicator   |
|                       | <b>External Alignment</b>         | N/A   |
|                       | <b>Other reporting</b>            | N/A   |
|                       | <b>Accountability</b>             | Primary Care  |
| DEF                   | <b>Unit of analysis</b>           | Percentage  |

|  |                                    |   |  |
|--|------------------------------------|---|--|
|  | <b>Calculation</b>                 | <p><b>Numerator</b><br/>Number of patients with CHF by the physician, group, LHIN, and the province</p> <p><b>Denominator</b><br/>Total number of patients by the physician, group, LHIN, and the province as of March 31<sup>st</sup> the previous year</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>• Patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> <p><b>Methods</b></p> $\frac{\text{Number of patients with CHF}}{\text{Total number of patients as of March 31}^{\text{st}} \text{ the previous year}} \times 100$ <p><b>Adjustment</b><br/>This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time</p> |  |
|  | <b>Data source / data elements</b> | The Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP) physician billing claims, National Ambulatory Care Reporting System (NACRS), Ontario Mental Health Reporting System (OMHRS)  |  |
|  | <b>OTHER RELEVANT INFORMATION</b>  | <b>Limitations / Caveats</b>  | Does not capture patients whose date of last contact not within 7 years of index   |
|  |                                    | <b>Comments</b>   | A patient is said to have CHF if they had one hospital admission (either from the DAD or from OMHRS) with a CHF diagnosis or an OHIP claim/NACRS ED record with a CHF diagnosis followed within one year by either a second record with a CHF diagnosis from an source. ICD 9 codes: 28, ICD 10 codes: I500, I501, I509<br><br><a href="#">Click here</a> for further information on how this cohort was generated |

### Chronic Disease Cohorts – Acute Myocardial Infarction (AMI)

|  |                                   |   |
|--|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | Percentage of patients with AMI by the physician, group, LHIN and the province.   |
|  | <b>HQO Reporting tool/product</b> | N/A   |
|  | <b>Type</b>                       | Outcome indicator   |
|  | <b>External Alignment</b>         | N/A   |
|  | <b>Other reporting</b>            | N/A   |
|  | <b>Accountability</b>             | Primary Care  |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage  |
|  | <b>Calculation</b>                | <p><b>Numerator</b><br/>Number of patients with AMI by the physician, group, LHIN, and the province</p> <p><b>Denominator</b><br/>Total number of patients by the physician, group, LHIN, and the province as of March 31<sup>st</sup> the previous year</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>• Patients of less than one year of age</li> </ul> |

|                            |                                    |  |
|----------------------------|------------------------------------|--|
|                            |                                    | <ul style="list-style-type: none"> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>  |
|                            |                                    | <p><b>Methods</b></p> $\frac{\text{Number of patients with AMI}}{\text{Total number of patients as of March 31st the previous year}} \times 100$ <p><b>Adjustment</b><br/>This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time</p> |
|                            | <b>Data source / data elements</b> | The Canadian Institute for Health Information Discharge Abstract Database (CIHI DAD) & Same Day Surgery (CIHI SDS), Ontario Health Insurance Plan (OHIP) physician billing claims  |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | Does not capture patients whose date of last contact not within 7 years of index   |
|                            | <b>Comments</b>                    | <p>A patient is said to have AMI with a most responsible diagnosis of AMI based on the ICD-9 code 410 or ICD-10 code I21.</p> <p><a href="#">Click here</a> for further information on how this cohort was generated</p>   |

### Chronic Disease Cohorts – Mental Health Diagnosis

|                                 |                                    |   |
|---------------------------------|------------------------------------|---|
| INDICATOR DESCRIPTION           | <b>Indicator description</b>       | Percentage of patients with a mental health diagnosis by the physician, group, LHIN and the province.   |
|                                 | <b>HQO Reporting tool/product</b>  | N/A   |
|                                 | <b>Type</b>                        | Outcome indicator   |
|                                 | <b>External Alignment</b>          | N/A   |
|                                 | <b>Other reporting</b>             | N/A   |
|                                 | <b>Accountability</b>              | Primary Care  |
| DEFINITION & SOURCE INFORMATION | <b>Unit of analysis</b>            | Percentage  |
|                                 | <b>Calculation</b>                 | <p><b>Numerator</b><br/>Number of patients with MI by the physician, group, LHIN, and the province</p> <p><b>Denominator</b><br/>Total number of patients by the physician or group or LHIN or the province as of March 31<sup>st</sup> the previous year</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>Patients of less than one year of age</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
|                                 |                                    | <p><b>Methods</b></p> $\frac{\text{Number of patients with a mental health diagnosis}}{\text{Total number of patients as of March 31st the previous year}} \times 100$ <p><b>Adjustment</b> This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time</p>  |
|                                 | <b>Data source / data elements</b> | The Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP) physician billing claims   |

|                                   |                              |   |
|-----------------------------------|------------------------------|---|
| <b>OTHER RELEVANT INFORMATION</b> | <b>Limitations / Caveats</b> | Does not capture patients whose date of last contact not within 7 years of index  |
|                                   | <b>Comments</b>              | An individual is said to have a mental health diagnosis if they have 2 claims in OHIP over 2 years or 1 hospitalization with one of the following codes mental health service codes- K005, K007, K623, ICD--295x, 96x 297x, 298x, 300x, 301x, 302x, 306x, 309x, 311x, 303x. 304x, V61.10, V61.1, V61.2, V61.3, V61.3, V61.03, V62.4, V62.2, V62.5 or one of the following OHIP codes- 897, 898, 899, 900, 901,902, 904, 905, 906 or one of the following ICD-10 codes F10-F99 (exclude dementia and delirium and F50.0 , F50.1 , F50.2, F50.3, F50.8, F50.9)<br><br><a href="#">Click here</a> for further information on how this cohort was generated |

### Chronic Disease Cohorts – Diabetes

|  |                                    |  |   |
|--|------------------------------------|--|---|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>       | Percentage of patients with diabetes by the physician, group, LHIN and the province.   |   |
|  | <b>HQO Reporting tool/product</b>  | N/A  |   |
|  | <b>Type</b>                        | Outcome indicator  |   |
|  | <b>External Alignment</b>          | N/A  |   |
|  | <b>Other reporting</b>             | N/A  |   |
|  | <b>Accountability</b>              | Primary Care   |   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>            | Percentage   |   |
|  | <b>Calculation</b>                 | <b>Numerator</b><br>Number of patients with diabetes by the physician, group, LHIN, and the province<br><br><b>Denominator</b><br>Total number of patients by the physician or group or LHIN or the province as of March 31 <sup>st</sup> the previous year<br><br>Exclusions:<br><ul style="list-style-type: none"> <li>Patients of less than one year of age</li> <li>Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |   |
|  | <b>Methods</b>                     | $\frac{\text{Number of patients with diabetes}}{\text{Total number of patients as of March 31}^{\text{st}} \text{ the previous year}} \times 100$  |   |
|  | <b>Adjustment</b>                  | This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time   |   |
|  | <b>Data source / data elements</b> | Ontario Diabetes Database (ODD), Ontario Health Insurance Plan (OHIP) physician billing claims   |   |
|  | <b>OTHER RELEVANT INFORMATION</b>  | <b>Limitations / Caveats</b>   | Does not capture patients whose date of last contact not within 7 years of index  |
|  |                                    | <b>Comments</b>  | An individual is said to have diabetes if they have received OHIP dx code 250 claims or 1 OHIP fee code Q040, K029 or K030 claim or 1 CIHI admission within 2 years.<br><br><a href="#">Click here</a> for further information on how this cohort was generated |

## Section 6: Patient Demographics

### Number of rostered patients

|                            |                                    |  |
|----------------------------|------------------------------------|--|
| INDICATOR DESCRIPTION      | <b>Indicator description</b>       | Number of people alive at index, with a valid HCN, and eligible for Ontario health services who are rostered (R) or virtually rostered (V) to a physician  |
|                            | <b>HQO Reporting tool/product</b>  | N/A  |
|                            | <b>Type</b>                        | Structure indicator  |
|                            | <b>External Alignment</b>          | N/A  |
|                            | <b>Other reporting</b>             | N/A  |
|                            | <b>Accountability</b>              | N/A  |
| OTHER RELEVANT INFORMATION | <b>Data source / data elements</b> | Registered Persons Database (RPDB), Client Agency Program Enrollment (CAPE), Ontario Health Insurance Plan (OHIP)  |
|                            | <b>Limitations / Caveats</b>       | Does not capture patients whose date of last contact was not within 7 years of index   |
|                            | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>Patients who are not rostered (value = N) refer to patients who are not rostered as well as patients who are rostered to a physician who is not in a group</li> <li>Some patients will not have a core PC claim and will fall under no physician (value = NOP)</li> <li>A small number of physicians will have patients who are rostered in multiple groups, in this case these patients will be represented in group with the highest number of patients; those in a group with fewer patients will be reassigned</li> </ul> |

### Age

|                            |                                    |  |
|----------------------------|------------------------------------|--|
| INDICATOR DESCRIPTION      | <b>Indicator description</b>       | Patients' age category at index date   |
|                            | <b>HQO Reporting tool/product</b>  | N/A  |
|                            | <b>Type</b>                        | N/A  |
|                            | <b>External Alignment</b>          | N/A  |
|                            | <b>Other reporting</b>             | N/A  |
|                            | <b>Accountability</b>              | N/A  |
| OTHER RELEVANT INFORMATION | <b>Data source / data elements</b> | Registered Persons Database (RPDB)   |
|                            | <b>Limitations / Caveats</b>       | Does not capture patients whose date of last contact not within 7 years of index   |
|                            | <b>Comments</b>                    | <p>Age Categories:</p> <ol style="list-style-type: none"> <li>1 to 4</li> <li>5 to 9</li> <li>10 to 18</li> <li>19 to 34</li> <li>35 to 49</li> <li>50 to 64</li> <li>65 to 74</li> <li>75 to 84</li> <li>85+</li> </ol> |

## Income quintile

|  |                                    |  |
|--|------------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>       | Income quintile at the index event using the dissemination area of the patient's residential address   |
|  | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports   |
|  | <b>Type</b>                        | N/A  |
|  | <b>External Alignment</b>          | N/A  |
|  | <b>Other reporting</b>             | N/A  |
|  | <b>Accountability</b>              | N/A  |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>            | N/A  |
|  | <b>Calculation</b>                 | Income quintile are derived using Statistics Canada's Postal Code Conversion File Plus (PCCF+). This program links the six-character post codes to census geographic areas in order to derive information such as income for each geographic area. For these analyses data from the 2006 Census was used to assign postal codes of residents to census dissemination areas in the 2006 census. Income adequacy, adjusted for household size and specific to each community, was used to order postal codes into quintiles, with income quintile 1 having the lowest relative income and income quintile 5 the highest. |
|  | <b>Data source / data elements</b> | Registered Persons Database (RPDB), Statistics Canada 2006 Census  |
| <b>OTHER RELEVANT INFORMATION</b>          | <b>Limitations / Caveats</b>       | A limitation of this measure is that people with a missing or invalid postal code, and those living in institutions, are not assigned a neighbourhood income quintile and therefore are not included in the summary measures of disparity.   |
|  | <b>Comments</b>                    | Values: 1 (low) to 5 (high)  |

## Patients Rurality Index of Ontario (RIO)

|                              |                                    |  |
|------------------------------|------------------------------------|--|
| <b>INDICATOR DESCRIPTION</b> | <b>Indicator description</b>       | The Rurality Index of Ontario provides a continuous and broad measurement of rurality using the dissemination area of the patient's residential postal code. A RIO score of 0 to 39 is considered urban, a score of 10 to 39 specifies a non-major urban center, and a score of 40 and above is considered rural. The assignment of the different bands (Urban, non-major urban and rural) is based on the plurality of the patients RIO scores in your practice. The RIO methodology is based on the Kralj methodology. |
|                              | <b>HQO Reporting tool/product</b>  | N/A  |
|                              | <b>Type</b>                        | N/A  |
|                              | <b>External Alignment</b>          | N/A  |
|                              | <b>Other reporting</b>             | N/A  |
|                              | <b>Accountability</b>              | N/A  |
| <b>OTHER</b>                 | <b>Data source / data elements</b> | Registered Persons Database (RPDB)   |

|                              |  |
|------------------------------|--|
| <b>Limitations / Caveats</b> | Does not capture patients whose date of last contact not within 7 years of index   |
| <b>Comments</b>              | Kralj B. Measuring Rurality – RIO2008_BASIC: Methodology and Results. Toronto, Ontario: Ontario Medical Association; 2009. Available at: <a href="https://www.oma.org/Resources/Documents/2008RIO-FullTechnicalPaper.pdf">https://www.oma.org/Resources/Documents/2008RIO-FullTechnicalPaper.pdf</a> |

## Additional Indicators

### Section 2: Diabetes Management

#### Percentage of patients with diabetes for whom physicians billed the diabetes management assessment code (K030) at least once during the past year

|  |                                   |   |
|--|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | Percentage of your diabetes patients for whom a diabetes management assessment code (K030) was claimed in the past year   |
|  | <b>HQO Reporting tool/product</b> | N/A   |
|  | <b>Type</b>                       | Process indicator   |
|  | <b>External Alignment</b>         | Ontario Diabetes Strategy (ODS), Ministry of Health and Long-Term Care (MOHLTC) Health Analytics Branch, Baseline Diabetes Dataset Initiative (BDDI), Canadian Institute of Health Information (CIHI)   |
|  | <b>Other reporting</b>            | N/A   |
|  | <b>Accountability</b>             | Primary Care  |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage  |
|  | <b>Calculation</b>                | <p><b>Numerator</b> Number of diabetes patients from whom K030 was billed at least once in the past year</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• Ontario residents who are identified as diabetics in the ODD in the previous two years</li> </ul> <p><b>Denominator</b> Total number of diabetes patients</p> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>• Patients who were not residents in Ontario in each year</li> <li>• Patients with a missing or invalid HCN, date of birth or postal code</li> <li>• Women with gestational diabetes</li> <li>• Excludes patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
|  | <b>Methods</b>                    | $\frac{\text{Number of diabetes patients whom K030 was billed at least once in the past year}}{\text{Total number of diabetes patients}} \times 100$  |

|                       |                                    |  |
|-----------------------|------------------------------------|--|
| <b>OTHER RELEVANT</b> |                                    | <b>Adjustment</b> This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time.  |
|                       | <b>Data source / data elements</b> | <b>Measure source:</b> MOHLTC Health Analytics Branch<br><b>Data source:</b> Ontario Diabetes Database (ODD) (comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database) and Discharge Abstract Database (DAD)) |
|                       | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>• ODD does not differentiate between Type I and II cases</li> </ul>   |
|                       | <b>Comments</b>                    | <b>Click here</b> for further information on the methodology used to generate a diabetes chronic disease cohort from which diabetic patients in this measure are drawn.  |

### Percentage of patients with diabetes for whom physicians billed the diabetes management incentive code (Q040) at least once during the past year

|  |                                   |  |
|--|-----------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | Percentage of your diabetes patients for whom a diabetes management incentive code (Q040) was claimed in the past year   |
|  | <b>HQO Reporting tool/product</b> | N/A  |
|  | <b>Type</b>                       | Process indicator  |
|  | <b>External Alignment</b>         | Ontario Diabetes Strategy (ODS), Ministry of Health and Long-Term Care (MOHLTC) Health Analytics Branch, Baseline Diabetes Dataset Initiative (BDDI), Canadian Institute for Health Information (CIHI)   |
|  | <b>Other reporting</b>            | N/A  |
|  | <b>Accountability</b>             | Primary Care   |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Percentage   |
|  | <b>Calculation</b>                | <p><b>Numerator</b> Number of diabetes patients whom Q040 was billed at least once in the past year</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• Ontario residents are identified as diabetics in the ODD in the previous two years</li> </ul> <p><b>Denominator</b> Total number of diabetes patients</p> <p><b>Excludes:</b></p> <ul style="list-style-type: none"> <li>• Patients who were not residents in Ontario in each year</li> <li>• Patients with a missing or invalid HCN, date of birth or postal code</li> <li>• Women with gestational diabetes</li> <li>• Patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> <p><b>Methods</b></p> $\frac{\text{Number of diabetes patients whom Q040 was billed at least once in the past year}}{\text{Total number of diabetes patients}} \times 100$ |
|  |                                   | <b>Adjustment</b> This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time.  |

|                            |                                    |  |
|----------------------------|------------------------------------|--|
|                            | <b>Data source / data elements</b> | <b>Measure source:</b> MOHLTC Health Analytics Branch<br>Data source: Ontario Diabetes Database (ODD) (comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database) and Discharge Abstract Database Metadata (DAD)) |
| OTHER RELEVANT INFORMATION | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>• ODD does not differentiate between Type I and II cases</li> </ul>   |
|                            | <b>Comments</b>                    | <b>Click here</b> for further information on the methodology used to generate a diabetes chronic disease cohort from which diabetic patients in this measure are drawn.  |

## Section 2: Health Service Utilization

### Specialist Visits – Cardiologist

|                            |                                    |  |
|----------------------------|------------------------------------|--|
| INDICATOR DESCRIPTION      | <b>Indicator description</b>       | The number of visits to the cardiologist in the previous year by patients rostered or virtually rostered to the physician  |
|                            | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports   |
|                            | <b>Type</b>                        | Process indicator  |
|                            | <b>External Alignment</b>          | N/A  |
|                            | <b>Other reporting</b>             | N/A  |
|                            | <b>Accountability</b>              | Primary Care   |
| OTHER RELEVANT INFORMATION | <b>Data source / data elements</b> | National Ambulatory Care Reporting System (NACRS), Ontario Health Insurance Plan (OHIP), CIHI Discharge Abstract Database (DAD), ICES Physicians Database (IPDB)   |
|                            | <b>Limitations / Caveats</b>       | N/A  |
|                            | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>• Among patients &gt;1 year of age, the number of visits to a cardiologist in the previous year where the main specialty is cardiology in the IPDB</li> <li>• Restrict to one visit per patient per physician per day</li> <li>• Only physician visits that occurred in the office, home, or LTC</li> <li>• Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |

### Specialist Visits – Endocrinologist

|                       |                                   |  |
|-----------------------|-----------------------------------|--|
| INDICATOR DESCRIPTION | <b>Indicator description</b>      | The number of visits to the endocrinologist in the previous year by patients rostered or virtually rostered to the physician                       |
|                       | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports |
|                       | <b>Type</b>                       | Process indicator  |
|                       | <b>External Alignment</b>         | N/A  |
|                       | <b>Other reporting</b>            | N/A  |

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
| <b>OTHER RELEVANT INFORMATION</b> | <b>Accountability</b>              | Primary Care  |
|                                   | <b>Data source / data elements</b> | National Ambulatory Care Reporting System (NACRS), Ontario Health Insurance Plan (OHIP), CIHI Discharge Abstract Database (DAD), ICES Physicians Database (IPDB)  |
|                                   | <b>Limitations / Caveats</b>       | N/A   |
|                                   | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>• Among patients &gt;1 year of age, the number of visits to an endocrinologist in the previous year where the main specialty is endocrinology in the IPDB</li> <li>• Restrict to one visit per patient per physician per day</li> <li>• Only physician visits that occurred in the office, home, or LTC</li> <li>• Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |

### Specialist Visits – Internal Medicine Physician

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>      | <b>Indicator description</b>       | The number of visits to an internal medicine physician in the previous year by patients rostered or virtually rostered to the physician   |
|                                   | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports  |
|                                   | <b>Type</b>                        | Process indicator   |
|                                   | <b>External Alignment</b>          | N/A   |
|                                   | <b>Other reporting</b>             | N/A   |
|                                   | <b>Accountability</b>              | Primary Care  |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Data source / data elements</b> | National Ambulatory Care Reporting System (NACRS), Ontario Health Insurance Plan (OHIP), CIHI Discharge Abstract Database (DAD), ICES Physicians Database (IPDB)  |
|                                   | <b>Limitations / Caveats</b>       | N/A   |
|                                   | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>• Among patients &gt;1 year of age, the number of visits to an internal medicine physician in the previous year where the main specialty is internal medicine in the IPDB</li> <li>• Restrict to one visit per patient per physician per day</li> <li>• Only physician visits that occurred in the office, home, or LTC</li> <li>• Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |

### Specialist Visits – Psychiatrist

|                              |                                   |   |
|------------------------------|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b> | <b>Indicator description</b>      | The number of visits to a psychiatrist in the previous year by patients rostered or virtually rostered to the physician |
|                              | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement Framework (PCPM)   |
|                              | <b>Type</b>                       | Process indicator   |
|                              | <b>External Alignment</b>         | N/A   |
|                              | <b>Other reporting</b>            | N/A   |
|                              | <b>Accountability</b>             | Primary Care  |

|                                   |                                    |  |
|-----------------------------------|------------------------------------|--|
| <b>OTHER RELEVANT INFORMATION</b> | <b>Data source / data elements</b> | National Ambulatory Care Reporting System (NACRS), Ontario Health Insurance Plan (OHIP), CIHI Discharge Abstract Database (DAD), ICES Physicians Database (IPDB)   |
|                                   | <b>Limitations / Caveats</b>       | N/A  |
|                                   | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>• Among patients &gt;1 year of age, the number of visits to a psychiatrist in the previous year where the main specialty is psychiatry in the IPDB</li> <li>• Restrict to one visit per patient per physician per day</li> <li>• Only physician visits that occurred in the office, home, or LTC</li> <li>• Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |

## Cost

|  |                                   |  |
|--|-----------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>               | <b>Indicator description</b>      | Adjusted per capita health care cost   |
|  | <b>HQO Reporting tool/product</b> | N/A  |
|  | <b>Type</b>                       | Structure  |
|  | <b>External Alignment</b>         | AFHTO Data 2 Decisions   |
|  | <b>Other reporting</b>            | N/A  |
|  | <b>Accountability</b>             | N/A  |
| <b>DEFINITION &amp; SOURCE INFORMATION</b> | <b>Unit of analysis</b>           | Per capita   |
|  | <b>Calculation</b>                | <p><b>Numerator</b><br/>Total primary care/ Physician, Lab, drug, ED and outpatient costs/ Inpatient and same day surgery costs/ Long Term Care, Complex Continuing Care and Rehab costs</p> <p><b>Denominator</b><br/>Total number of patients seen by the physician/group/FHT</p> <p>Excludes:</p> <ul style="list-style-type: none"> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul>           |
|  |                                   | <p><b>Methods</b><br/>The cost subcategories include</p> <p><b>Primary care costs</b><br/>GP - FFS visits<br/>FHO/FHN capitation costs<br/>Non-FFS GP/FP visits</p> <p><b>Physician, Lab, drug, ED and outpatient costs</b><br/>OHIP specialty physician FFS costs<br/>ODB drug cost<br/>Home Care Services cost<br/>NACRS ED<br/>OHIP lab cost<br/>OHIP non-physician cost<br/>Other non-FFS visits<br/>Emergency Department Alternate Funding<br/>Arrangement non-FFS visits<br/>Non-FFS medical oncologists</p> |

|                                   |                                    |  |
|-----------------------------------|------------------------------------|--|
| <b>OTHER RELEVANT INFORMATION</b> |                                    | <p>Non-FFS radiation oncologists<br/>NACRS cancer<br/>NACRS dialysis</p> <p><b>Inpatient and same day surgery costs</b><br/>Inpatient (CIHI/DAD)<br/>Same Day Surgery (SDS)<br/>Inpatient MH</p> <p><b>Long Term Care, Complex Continuing Care and Rehab costs</b><br/>LTC cost<br/>CCC cost<br/>Rehab (NRS)</p>   |
|                                   |                                    | <p><b>Adjustment</b> This indicator has been risk adjusted for age, sex, income, rurality and co-morbidities.</p>  |
|                                   | <b>Data source / data elements</b> | <p><b>Measure source:</b> Primary Care Performance Measurement Framework (PCPM)<br/><b>Data source:</b> DAD, NACRS, NRS, Continuing Care Reporting System, Ontario Mental Health Reporting System (OMHRS), OHIP, Home Care Database, ODB, Ontario Home Care Administration System, SDS Database provided by ICES</p>   |
|                                   | <b>Limitations / Caveats</b>       | <ul style="list-style-type: none"> <li>• Interpretation of this indicator is challenging, as directionality is not clear</li> <li>• Care delivered in teams is not captured</li> <li>• Overhead costs for physicians are not captured</li> <li>• Medical/radiation oncologists' salaries are unavailable for years 2002–2004</li> </ul>  |
|                                   | <b>Comments</b>                    | <p>Costs for each patient encounter with the health care system were calculated using an algorithms that have been implemented at ICES and are based on costing methods using administrative data.<sup>i</sup></p> <p><sup>i</sup> Wodchis W, Bushmeneva K, Nikitovic M, et al. Guidelines on person-level costing using administrative databases in Ontario: working paper series volume 1 May 2013. Toronto: Health System Performance Research Network; 2013.</p> <p>Only relevant for FHTs reports</p> |

### Regular Primary care Provider – Team

|                              |                                   |   |
|------------------------------|-----------------------------------|---|
| <b>INDICATOR DESCRIPTION</b> | <b>Indicator description</b>      | Percentage of primary care visits for a core service, that are made to a physician that belongs to the same team as the physician to whom the patient is rostered or virtually rostered |
|                              | <b>HQO Reporting tool/product</b> | N/A   |
|                              | <b>Type</b>                       | Process indicator   |
|                              | <b>External Alignment</b>         | AFHTO Data 2 Decisions  |
|                              | <b>Other reporting</b>            | N/A   |

|   |  |   |
|---|--|---|
| <b>DEFINITION &amp; SOURCE INFORMATION</b>  | <b>Accountability</b>  | Primary Care  |
|   | <b>Unit of analysis</b>  | Percentage  |
|   | <b>Calculation</b>   | <b>Numerator</b> Number of primary care visits to the group   |
|   |  | <b>Includes:</b><br>N/A   |
|   |  | <b>Denominator</b> Total number of primary care visits in the system  |
|   |  | <b>Exclusions:</b> <ul style="list-style-type: none"> <li>• Patients of less than one year of age</li> <li>• Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |
| <b>Methods</b><br>$\frac{\text{The number of primary care visits to the group}}{\text{Total number of primary care visits in the system}} \times 100$ |  |   |
| <b>Adjustment</b> Not adjusted  |  |   |
| <b>Data source / data elements</b>  | <b>Data source:</b> Ontario Health Insurance Plan (OHIP), Client Agency Program Enrolment (CAPE) |   |
| <b>OTHER RELEVANT INFORMATION</b>   | <b>Limitations / Caveats</b>   |   |
|   | <b>Comments</b>  | Only relevant for FHTs reports  |

### Specialist Visits – Respiriologist

|                                   |                                    |  |
|-----------------------------------|------------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>      | <b>Indicator description</b>       | The number of visits to the respirologist in the previous year by patients rostered or virtually rostered to the physician   |
|                                   | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement Framework (PCPM);   |
|                                   | <b>Type</b>                        | Process indicator  |
|                                   | <b>External Alignment</b>          | N/A  |
|                                   | <b>Other reporting</b>             | N/A  |
|                                   | <b>Accountability</b>              | Primary Care   |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Data source / data elements</b> | National Ambulatory Care Reporting System (NACRS), Ontario Health Insurance Plan (OHIP), CIHI Discharge Abstract Database (DAD), ICES Physicians Database (IPDB)   |
|                                   | <b>Limitations / Caveats</b>       | N/A  |
|                                   | <b>Comments</b>                    | <ul style="list-style-type: none"> <li>• Among patients &gt;1 year of age, the number of visits to a respirologist in the previous year where the main specialty is respirology in the IPDB</li> <li>• Restrict to one visit per patient per physician per day</li> <li>• Only physician visits that occurred in the office, home, or LTC</li> <li>• Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes</li> </ul> |

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

### Resource Utilization Band (RUB)

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
| <b>INDICATOR DESCRIPTION</b>      | <b>Indicator description</b>       | The RUB is the mean resource intensity weight using any diagnosis from a physician claim, emergency department visit or hospitalization in the past year. Resource Utilization Bands (RUBs) are part of the Johns Hopkins Adjusted Clinical Group® (ACG®) Case Mix System. The RUBs are a simplified ranking system of each person's overall sickness level, taking into account all the diagnoses attributed to them during medical visits and hospitalizations in the preceding year. |
|                                   | <b>HQO Reporting tool/product</b>  | N/A   |
|                                   | <b>Type</b>                        | N/A   |
|                                   | <b>External Alignment</b>          | N/A   |
|                                   | <b>Other reporting</b>             | N/A   |
|                                   | <b>Accountability</b>              | N/A   |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Data source / data elements</b> | Ontario Health Insurance Plan (OHIP), National Ambulatory Care Reporting System (NACRS), Canadian Institute of Health Information Discharge Abstract Database (CIHI DAD)  |
|                                   | <b>Limitations / Caveats</b>       | N/A   |
|                                   | <b>Comments</b>                    | Patients are assigned to one of 6 RUB categories:<br>0-Non-user<br>1-Healthy User<br>2-Low Morbidity<br>3-Moderate Morbidity<br>4-High Morbidity<br>5-Very High Morbidity   |

### Standardized ACG Morbidity Index (SAMI)

|                              |                              |  |
|------------------------------|------------------------------|--|
| <b>INDICATOR DESCRIPTION</b> | <b>Indicator description</b> | The SAMI represents the mean ACG weight of expected resource use. The distribution of primary care physicians and the number of very sick patients is variable, and can result in systematic inequities where physicians are not adequately reimbursed and where these very sick patients are underserved and/or unable to enroll with a family physicians <sup>1</sup> . Thus there has been an increasing need to predict primary care utilization to better equip and enable practices to meet health care needs. The John's Hopkins Adjusted Clinical Groups (ACG) Case-mix System is used in developing SAMI as it has "demonstrated validity for explaining the health care service needs of Canadian populations". <sup>2</sup> The ACG system uses diagnostic codes derived from OHIP billing data and the CIHI Discharge Abstract Database to place patients into one or more of the 30 Adjusted Diagnostic Groups (ADGs). <sup>2</sup> Then patients are assigned to one of 90 mutually exclusive ACGs based on their age, sex, and the number of different ADGs they were placed in. Each ACG has a weight that indicates the expected level of health care resources needed or the level of need for health care. <sup>2,3</sup> Finally, the practice-based ACG morbidity index, known as SAMI, is created by adding specific actual and expected costs to each ACG weight and dividing these by the provincial grand mean. <sup>3</sup> For example, a SAMI of 1.85 can be interpreted as an expected need for health care that is 85% higher than in the general Ontario population, and a SAMI of 0.88 |
|------------------------------|------------------------------|--|

|                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
|                                   |                                    | can be interpreted as a 12% lower expected need for health care than in the general Ontario population. <sup>4</sup>  |
|                                   | <b>HQO Reporting tool/product</b>  | N/A   |
|                                   | <b>Type</b>                        | N/A   |
|                                   | <b>External Alignment</b>          | N/A   |
|                                   | <b>Other reporting</b>             | N/A   |
|                                   | <b>Accountability</b>              | N/A   |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Data source / data elements</b> | Ontario Health Insurance Plan (OHIP), Canadian Institute for Health Information Discharge Abstract Database (CIHI-DAD), Ontario Mental Health Reporting System (OMHRS)  |
|                                   | <b>Limitations / Caveats</b>       | N/A   |
|                                   | <b>Comments</b>                    | As of September 2016 data point, the SAMI score calculation was updated to include the following OHIP fee codes K130, K131, K132 and E542.<br><br><b>Sources:</b><br><ol style="list-style-type: none"> <li>1. Glazier RH, Klein-Geltink J, Kopp A, Sibley LM. Capitation and enhanced fee-for-service models for primary care reform: a population-based evaluation. Canadian Medical Association Journal 2009;180:E72–81.</li> <li>2. Sibley, Lyn M., and Richard H. Glazier. "Evaluation of the equity of age–sex adjusted primary care capitation payments in Ontario, Canada." Health Policy104.2 (2012): 186-192.</li> <li>3. Reid, R., et al. "Do some physician groups see sicker patients than others."Implications for Primary Care Policy in Manitoba. Manitoba Centre for Health Policy and Evaluation (2001).</li> <li>4. Glazier, Richard H., Brandon M. Zagorski, and Jennifer Rayner. Comparison of primary care models in Ontario by demographics, case mix and emergency department use, 2008/09 to 2009/10. Institute for Clinical Evaluative Sciences, 2012.</li> </ol> |

## Section 5: Patient Demographics

### Gender

|                              |                                   |  |
|------------------------------|-----------------------------------|--|
| <b>INDICATOR DESCRIPTION</b> | <b>Indicator description</b>      | Proportion of rostered patients that are male female   |
|                              | <b>HQO Reporting tool/product</b> | Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports |
|                              | <b>Type</b>                       | N/A  |
|                              | <b>External Alignment</b>         | N/A  |
|                              | <b>Other reporting</b>            | N/A  |
|                              | <b>Accountability</b>             | N/A  |

|                                   |                                    |  |
|-----------------------------------|------------------------------------|--|
| <b>OTHER RELEVANT INFORMATION</b> | <b>Data source / data elements</b> | Registered Persons Database (RPDB)   |
|                                   | <b>Limitations / Caveats</b>       | Does not capture patients whose date of last contact not within 7 years of index   |
|                                   | <b>Comments</b>                    | Values: 0 = Female, 1 = Male<br><br>Excludes Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes |

### Recent OHIP registration

|                                   |                                    |  |
|-----------------------------------|------------------------------------|--|
| <b>INDICATOR DESCRIPTION</b>      | <b>Indicator description</b>       | Anyone with a first registration in OHIP within the last 10 years excluding children <10   |
|                                   | <b>HQO Reporting tool/product</b>  | Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports |
|                                   | <b>Type</b>                        | N/A  |
|                                   | <b>External Alignment</b>          | N/A  |
|                                   | <b>Other reporting</b>             | N/A  |
|                                   | <b>Accountability</b>              | N/A  |
| <b>OTHER RELEVANT INFORMATION</b> | <b>Data source / data elements</b> | Registered Persons Database (RPDB)   |
|                                   | <b>Limitations / Caveats</b>       | Does not capture patients whose date of last contact not within 7 years of index   |
|                                   | <b>Comments</b>                    | Values: 0 = OHIP registration <u>not</u> within 10 years; 1 = OHIP registration within 10 years  |

## Appendix A – Table of Acronyms

| ACRONYM | TERM   |
|---------|--|
| ARB     | angiotensin II receptor blockers               |
| ACE     | angiotensin converting enzyme                  |
| ACSC    | Ambulatory Care Sensitive Conditions           |
| AMI     | acute myocardial infarction                    |
| ADG     | Adjusted Diagnosis Groups                      |
| CAPE    | Client Agency Program Enrolment                |
| CDC     | chronic disease cohort                         |
| CHF     | congestive heart failure                       |
| COPD    | chronic obstructive pulmonary disease          |
| CPSO    | College of Physicians and Surgeons of Ontario  |
| CTAS    | Canadian Triage and Acuity Scale               |
| DAD     | Discharge Abstract Database                    |
| ED      | emergency department                           |
| FOBT    | fecal occult blood test                        |
| GDS     | group data suppressed; physician group size <6 |
| HbA1C   | glycated hemoglobin                            |
| HQO     | Health Quality Ontario                         |
| ICES    | Institute for Clinical Evaluative Sciences     |
| IPDB    | ICES Physician Database                        |
| LHIN    | Local Health Integration Network               |
| NACRS   | National Ambulatory Care Reporting System      |
| OCR     | Ontario Cancer Registry                        |
| ODB     | Ontario Drug Benefit                           |
| OHIP    | Ontario Health Insurance Plan                  |
| OMHRS   | Ontario Mental Health Reporting System         |

|      |  |
|------|--|
| PDS  | patient data suppressed; number of patients <6 |
| QIIP | Quality Improvement & Innovation Partnership   |
| RIO  | Rurality Index of Ontario                      |
| RPBD | Registered Persons Database                    |
| RUB  | Resource Utilization Band                      |

## Appendix B – Data Sources

| TERM  | DATA SOURCE(S)               |
|---|------------------------------|
| <b>OPIOID PRESCRIBING</b>   |                              |
| Percentage of non-palliative care patients who have been dispensed an opioid prescription (excluding opioid agonist therapy) within the last 6 months       | CIHI DAD; OHIP; RPDB; NMS    |
| Percentage of non-palliative care patients who have been newly dispensed an opioid prescription (excluding opioid agonist therapy) within the last 6 months | CIHI DAD; OHIP; RPDB; NMS    |
| Percentage of non-palliative care patients who have been dispensed an opioid (including opioid agonist therapy) and benzodiazepine within the last 6 months | CIHI DAD; OHIP; RPDB; NMS    |
| Percentage of non-palliative care patients who have at least one high-dose opioid >90 mg MEQ daily within the last 6 months                                 | CIHI DAD; OHIP; RPDB; NMS    |
| <b>PATIENT DEMOGRAPHICS</b>   |                              |
| Patient population  | OHIP; CAPE; RPDB             |
| Percentage of rostered patients (not including virtually rostered)  | OHIP; CAPE; RPDB             |
| Percentage of patients by age cohorts   | RPDB                         |
| Rurality Index of Ontario (RIO) of patients   | RPDB                         |
| Income quintiles of patients  | RPDB                         |
| Mean Resource Utilization Band (RUB) of patients  | OHIP; NACRS; CIHI DAD        |
| Number of Adjusted Diagnosis Groups (ADG)   | OMHRS; CIHI DAD              |
| <b>CHRONIC DISEASE CONDITIONS</b>   |                              |
| Percentage of patients with hypertension  | OHIP; CIHI DAD               |
| Percentage of patients with congestive heart failure (CHF)  | OHIP; NACRS; OMHRS; CIHI DAD |
| Percentage of patients with acute myocardial infarction (AMI)   | OHIP; CIHI DAD; CIHI SDS     |
| Percentage of patients with mental illness  | OHIP; CIHI DAD               |
| Percentage of patients with diabetes  | OHIP; ODD                    |
| Percentage of patients with various health conditions by the physician  | OHIP; NACRS; OMHRS; CIHI DAD |
| Percentage of patients with various health conditions by the group  | OHIP; NACRS; OMHRS; CIHI DAD |

|   |                              |
|---|------------------------------|
| Percentage of patients with various health conditions by the LHIN   | OHIP; NACRS; OMHRS; CIHI DAD |
| <b>HEALTH SERVICES UTILIZATION</b>  |                              |
| Rate of emergency department visits per 1,000 patients (adjusted)   | NACRS                        |
| Rate of ED visits per 1,000 patients: Canadian Triage Acuity Scale 1-3 (adjusted)                         | NACRS                        |
| Rate of ED visits per 1,000 patients: CTAS 4-5 (adjusted)   | NACRS                        |
| Rate of hospital admissions for asthma per 1,000 patients (adjusted)                                      | CIHI DAD                     |
| Rate of hospital admissions for CHF per 1,000 patients (adjusted)   | CIHI DAD                     |
| Rate of hospital admissions for COPD per 1,000 patients (adjusted)  | CIHI DAD                     |
| Rate of hospital admissions for diabetes per 1,000 patients (adjusted)                                    | CIHI DAD                     |
| Rate of hospital admissions for asthma, CHF, COPD and diabetes per 1,000 patients (adjusted)              | CIHI DAD                     |
| Percentage of hospital readmissions (within 30 days) of admitted patients (adjusted)                      | CIHI DAD                     |
| Percentage of hospital readmissions (within one year) of admitted patients (adjusted)                     | CIHI DAD                     |
| Percentage of visits by patients to own physician (continuity of care)                                    | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to cardiologist per 1,000 patients (adjusted)  | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to respirologist per 1,000 patients (adjusted)   | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to psychiatrist per 1,000 patients (adjusted)  | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to endocrinologist per 1,000 patients (adjusted)   | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to general internist per 1,000 patients (adjusted)   | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to non-specified specialist per 1,000 patients (adjusted)                                  | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to any specialists per 1,000 patients (adjusted)   | OHIP; NACRS; CIHI DAD; IPDB  |
| Rate of visits to specified and non-specified specialists per 1,000 patients by physician (adjusted)      | OHIP; NACRS; CIHI DAD; IPDB  |
| <b>CHRONIC DISEASE PREVENTION AND MANAGEMENT</b>  |                              |
| <b>Diabetes Management</b>  |                              |
| Percentage of patients with diabetes with two or more glycated hemoglobin tests within the past 12 months | OHIP; RPDB; CIHI DAD         |

|  |                           |
|--|---------------------------|
| Percentage of patients with diabetes with at least one retinal examination within the past 24 months   | OHIP; RPDB; CIHI DAD      |
| Percentage of patients with diabetes with at least one low-density lipoprotein cholesterol test within the past 12 months  | OHIP; RPDB; CIHI DAD      |
| Percentage of patients with diabetes aged 66 and older prescribed angiotensin converting enzyme or angiotensin II receptor blockers                              | OHIP; RPDB; CIHI DAD; ODB |
| Percentage of patients with diabetes aged 66 and older prescribed statin   | OHIP; RPDB; CIHI DAD; ODB |
| Percentage of patients with diabetes for whom physicians billed the diabetes management assessment code K030 at least once during the past year                  | OHIP; RPDB; CIHI DAD      |
| Percentage of patients with diabetes for whom physicians billed the diabetes management incentive code Q040 at least once during the past year                   | OHIP; RPDB; CIHI DAD      |
| <b>Cancer Screening</b>  |                           |
| Percentage of female patients aged 23 to 69 who had a Pap smear within past three years  | OHIP; RPDB; CIHI SDS; OCR |
| Percentage of female patients aged 52 to 69 who had a mammogram within past two years  | OHIP; RPDB; CIHI SDS; OCR |
| Percentage of patients aged 52 to 74 who had a fecal occult blood test (FOBT) within past two years  | OHIP; RPDB; CIHI SDS; OCR |
| Percentage of patients aged 52 to 74 had a colonoscopy within past 10 years  | OHIP; RPDB; CIHI SDS; OCR |
| Percentage of patients seen aged 52 to 74 who had a FOBT within past two years, other investigations within five years or a colonoscopy within the past 10 years | OHIP; RPDB; CIHI SDS; OCR |

## Appendix C – Palliative care patients identified by using hospital and physician billing claims data

| OHIP FEE CODE    | DESCRIPTION  |
|------------------|--|
| A945             | GEN./FAM.PRACT.SPECIAL PALLIATIVE CARE CONSULTATION    |
| C945             | SPECIAL PALLIATIVE CARE CONSULT HOSP IN PATIENT        |
| C882             | TERMINAL CARE IN HOSP.G.P/F.P                          |
| C982             | PALLIATIVE CARE  |
| W872             | TERMINAL CARE N.H G.P/FAMILY PRACTICE                  |
| W882             | TERMINAL CARE IN CHR.HOSP.G.P.                         |
| W972             | PALLIATIVE CARE  |
| W982             | PALLIATIVE CARE  |
| K023             | PALLIAT CARE SUPPORT INDIVID CARE 1/2 HR OR MAJOR PART |
| B998             | SPEC VIS PALLIATIVE CARE HOME, DAYS, EVE               |
| B966             | TRAVEL PREMIUM - PALLIATIVE CARE HOME VISIT            |
| B997             | SPEC VIS PALLIATIVE CARE HOME, DAYS, EVE               |
| G511             | TELEPHONE MANAGEMENT OF PALLIATIVE CARE AT HOME        |
| G512             | WEEKLY PALLIATIVE CARE CASE MANAGEMENT                 |
| CIHI DAD PATSERV | DESCRIPTION  |
| 58               | PALLIATIVE CARE  |
| CIHI ICD10 CODE  | DESCRIPTION  |
| Z515             | PALLIATIVE CARE  |