MyPractice: Primary Care Report

Technical Appendix

June 2024

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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
Removed the indicator Percentage of patients with diabetes up-to-date with an ACE inhibitor or ARB prescription	V3	December 2018
Updated LHIN assignment methodology	V5	November 2019
Updated methodology for diabetes chronic disease cohort	V5	November 2019
Updated methodology for colorectal cancer screening indicator	V6	May 2020
Updated methodology for colorectal cancer screening indicator and cohort generation (use of K codes as part of virtual rostering methodology)	V7	November 2019
Updated methodology for Chronic Disease Cohort—Mental Health Diagnosis	V9	May 2020
Added oral antibiotic prescribing indicators and technical details	V10	Marcg 2022
Updated methodology for Cancer Screening indicators	V11	May 2023
Updated indicator description for SAMI indicator	V11	May 2023

Introduction

Physicians and administrators in Ontario are dedicated to quality improvement; however, they do not always have the comparable regional and provincial data they need to inform their quality improvement efforts. To help address this gap, Ontario Health creates customized and confidential reports for the primary care, long term care and hospital sectors.

Using existing administrative health databases, the MyPractice: Primary Care reports provide non-salaried family physicians who provide comprehensive primary care as well as Family Health Team (FHT) executive directors data about their practice/FHT and share change ideas to help drive quality improvement.

To assist users of these reports, this technical appendix provides details on the methodology to derive the cohort (i.e., how patients are rostered and virtually rostered), LHIN assignment, and adjustment methods. As well, definitions, data sources, and analytical methods are provided for each of the indicators presented in the MyPractice: Primary Care report.

Cohort Generation
The cohort included in this report was generated as follows:

1) Individuals were selected from the Registered Persons Database (RPDB), a population-based registry maintained by the Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) and satisfied the following criteria:

- Were alive at the index date (born and not deceased)
- Had a contact with the healthcare system within 10 years of the index date
- Were Ontario residents
- Were eligible for OHIP at the index date

2) Individuals that are rostered were identified through the Client Agency Program Enrollment (CAPE)

- 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 (LTC) facility.
- Confirmed that the CAPE eligibility overlapped index date
- 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:

- Selected all physicians from CAPE
- 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
- Enrollment program type that has the highest number of patients was kept
- Family Health Team (FHT) status was added
- From Corporate Provider Database checked that physicians was 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. Patients in the smaller group will be reassigned.

4) For patients that were not in CAPE a virtual rostering methodology was applied

- 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 (PC) codes. Virtual care OHIP billing codes K080, K081 and K082 that were effective as of March 14, 2020, were also included as part of the virtual rostering methodology.
- Cost of services (cost × number of service) was derived by linking to standard pricing file
- 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 rostered 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 data includes all physicians in the 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.

LHIN assignment

Beginning with the March 2019 data cycle, physician LHIN assignment methodology was revised and is based on the majority of where the physician's rostered and virtually rostered patients live using their most recent postal code as well as primary care OHIP codes only. Previously, physician LHIN assignment was determined using the mainLHIN variable from the ICES Physician Database (IPDB), included all OHIP fee codes, as well as all patients whom the physician provided care for. Due to the data lag in the IPDB (2015 reference year), a small proportion of physicians would not be assigned a

LHIN, hence the change in methodology. Both methods have good agreement (92.5%) however, the new methodology assures each physician is assigned to a LHIN.

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.

LHIN assignment for Family Health Teams was obtained from a file provided by the Ministry of Health and Long-Term Care.

Adjustment
Where indicated, several 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 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 is 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
Most patients receiving care from a family physician working in a patient enrollment model are enrolled to that doctor. Those data are available in the Client Agency Enrollment 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, OHIP) for that patient in the previous two years. Please see the section on Cohort Generation which describes in further detail, the virtual rostering methodology.

Section 1: Antibiotic Prescribing

Antibiotic Initiation

Rate of oral antibiotic initiation per 1,000 encounters among patients 66 years of age and older within a 6-month reporting period

Indicator Description

This indicator measures the number of oral antibiotic treatment episodes dispensed per 1,000 patient-physician encounters for community dwelling adults aged 66 and older. The indicator is based on all patients seen by a primary care physician who are aged 66 and older, and includes office, home, virtual and emergency room visits. The oral antibiotic had to be prescribed by the primary care physician. Non-oral antibiotics and those prescribed to your patients by other physicians are not included in this measure.

OH(Q) Reporting tool/product: MyPractice: Primary Care Report

Type: Process indicator

External Alignment: Not applicable

Other Reporting: Not applicable

Accountability: This indicator is strictly for quality improvement efforts and is not for accountability.

Definition & Source Information

Unit of Analysis: Rate per 1,000 encounters

Calculation:

Numerator

Total number of oral antibiotic treatment episodes dispensed beginning in each reporting period with a primary care physician as the prescriber for community dwelling patients aged 66 and older.

Exclusions:

- Any oral antibiotic treatment episodes that began in the last three months of the previous reporting period.
- Any oral antibiotics dispensed for a person living in Long-Term Care (dispense has LTC flag).
- Non oral formulations of antibiotics.
- Paromomycin dispenses are excluded.
- Creams, otic and ophthalmic antibiotics.
- Primary care physicians who have not seen an eligible patient.

Notes:

- A treatment episode defines a course of oral antibiotic treatments.
- Treatment episodes have the same patient, same physician, and the same drug name with up to three days between the last date of one dispense and the first day of the next dispense.
- The theoretical last day of the dispense is calculated based on the date the drug was dispensed and the number of days of pills supplied.
- Only one treatment episode will be counted per day, per patient, per physician.
- The treatment episode had to begin in the reporting period and could end in the next reporting period. The three months prior to each reporting period will be examined for antibiotic dispenses linked to the first one in the reporting period (i.e., a three month look back). The first two weeks of the next reporting period will be examined for oral antibiotic dispenses that may be linked to the last dispense in the reporting period (i.e., a 14 day look forward).

Denominator

Total number of encounters for each primary care physician with a community dwelling patient aged 66 and older. For each treatment episode that has no visit on the same day the physician who prescribed the oral antibiotic, one is added to the denominator.

Exclusions:

- Age < 66 years at index date.
- Age > 115 years at index date.
- Long-term care (LTC) resident.
- Palliative care patients (See Appendix C).
- Physicians with fewer than 6 antibiotic dispenses in the reporting period will be excluded from the calculation of the group, FHT (future), LHIN, riog score, program type and provincial indicators.
- Note that although the PC pool for MPPC cohort includes pediatricians they are not included in the antibiotic indicator.

Methods

Numerator/Denominator * 1,000

$$\frac{\text{Number of oral antibiotic treatment episodes for community dwelling patients aged 66 and older}}{\text{Total encounters for patients aged 66 and older in the office, home, emergency department or virtually}} \times 1{,}000$$

Adjustment (risk, age/sex standardization)

None

Data Source/data elements:

Data Provider: ICES

Data Sources: Client Agency Program Enrollment (CAPE), Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Ontario Drug Benefits Database (ODB), Primary Care Population data base (PCPOP)

Other Relevant Information

Limitations / Caveats:

- Dispensed prescriptions don't always reflect actual use.
- The OHIP diagnosis data available for these reports are not accurate enough to stratify the prescribing by indication for the treatment.
- Only oral antibiotics are included in this indicator.
- These data reflect a portion of the primary care physician's patient population – those aged 66 and older.
- These data are crude rates and are not adjusted for chronic conditions. To understand the impact of your patient population on your prescribing, contextual data on chronic conditions among your patient population are provided in the practice report along with provincial comparators.

Comments:

- The provincial-level results include patients not assigned to a physician.
- The oral antibiotic initiation rates that are provided at the group, FHT, LHIN and provincial level do not include physician rates for those who prescribed fewer than 6 antibiotics in the reporting period.
- These data are for quality improvement, and do not override clinical judgement.

1) Schwartz, K.L., Langford, B.J., Daneman, N., Chen, B., Brown, K.A., McIsaac, W., et al. (2020). Unnecessary antibiotic prescribing in a Canadian primary care setting: a descriptive analysis using routinely collected electronic medical record data. CMAJ Open 8(2): E360-E369.
2) Public Health Agency of Canada
3) https://www.canada.ca/content/dam/hc-sc/documents/services/drugs-health-products/canadian-antimicrobial-resistance-surveillance-system-2020-report/CARSS-2020-report-2020-eng.pdf
4) Silverman, M., Povitz, M., Sontrop, J.M., Li, L., Richard, L., Cajic, S., Shariff, S.Z. (2017). Antibiotic prescribing for nonbacterial acute upper respiratory infections in elderly people. Annals of Internal Medicine 166(11): 765-774.

Antibiotic Prolonged Treatment

Percentage of oral antibiotic dispenses longer than 7 days duration among patients 66 years of age and older within a 6-month reporting period

Indicator description

This indicator measures the proportion of oral antibiotic treatment episodes dispensed that are prescribed by a primary care physician and are longer than 7 days for community dwelling patients aged 66 through 115. The indicator is based on all patients seen by the primary care physician.

OH(Q) Reporting tool/product: MyPractice: Primary Care Report

Type: Process Indicator

External Alignment: Not applicable

Other Reporting: Not applicable

Accountability: This indicator is strictly for quality improvement efforts and is not for accountability.

Definition & Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Number of oral antibiotic treatment episodes dispensed that were longer than 7 days duration in the six-month reporting period by the primary care physician for community dwelling patients aged 66 and older.

Notes:

- Treatment episodes are defined as the same prescriber, same patient, and same drug name with a 3-day grace period between the theoretical end date of one dispense and the start of the next dispense.
- If there is more than one oral antibiotic treatment episode beginning on the same day, then the longest treatment episode will be used to estimate this indicator.
- The duration of the treatment episode is calculated by summing the days of antibiotics supplied on each dispense in the treatment episode.

Denominator

Total number of oral antibiotic treatment episodes dispensed to community dwelling patients aged 66 and older in the six-month reporting period by the primary care physician.

Notes:

- The prescriber must be a primary care physician.
- The patient may or may not be rostered to the prescriber.
- The denominator is based on patient-physician encounters in the office, virtual, phone, and emergency room settings and captures any patient seen in the reporting period.

Exclusions:

- The cohort exclusions are applied to patients in Ontario (non-Ontario residents, missing date of birth, missing sex, missing data to link patients to administrative data).
- Patients less than 66 years of age or over the age of 115 years at index date (the last date of the reporting period).
- Any person living in long-term care (LTC).
- Any person receiving palliative care in the previous 6 months (See Appendix B).
- Primary care physicians who have not seen an eligible patient.
- Physicians with fewer than 6 antibiotic dispenses in the reporting period will be excluded from the calculation of the group, FHT (future), LHIN, riog, program type and provincial indicators.
- Note that although the PC pool for MPPC cohort includes pediatricians, they are not included in the antibiotic indicators.
- Non oral formulations of antibiotics.
- Creams, otic and ophthalmic antibiotics.
- Paromomycin is excluded from this indicator.

Methods

Numerator / Denominator * 100%

$$\frac{\text{Number of oral antibiotic treatments dispensed which are longer than 7 days in the the six} - \text{month reporting period}}{\text{Total number of oral antibiotic treatment episodes dispensed with the primary care physician as the prescriber in the six} - \text{month reporting period}}$$

Adjustment (risk, age/sex standardization)

None

Data source / data elements

Data provider: ICES

Data Source: Client Agency Program Enrollment (CAPE), Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Ontario Drug Benefits Database (ODB), Primary Care Population data base (PCPOP)

Other Relevant Information

Comments:

These data are for quality improvement efforts and do not over-ride clinical judgement.

1) Dawson-Hahn et al. (2017). Short-course vs. long-course oral antibiotics for infections treated in outpatient settings: a review of systematic reviews. Family Practice 34(5): 511-519.
2) Milo G, Katchman EA, Paul M, Christiaens T, Baerheim A, Leibovici L. Duration of antibacterial treatment for uncomplicated urinary tract infection in women. (2005). Cochrane Database Syst Rev. 2005;(2):CD004682.
3) Vaughn, V.M., Flanders, S.A., Snyder, A., Conlon, A., Roger, M.A.M., Malani, A.N., et al. (2019). Excess antibiotic treatment duration and adverse events in patients hospitalized with pneumonia: a multihospital cohort study. Annals of Internal Medicine 171(3): 153-163.
4) Grant, J., Le Saux, N., members of the Antimicrobial Stewardship and Resistance Committee (ASRC) of the Association of Medical Microbiology and Infectious Disease (AMMI). (2021). Duration of antibiotic therapy for common infections. JAMMI 6(3): 181-197.

Table A: List of Oral Antibiotics

Subclass	Name
CEPHALOSPORIN (1st Generation)	CEPHALEXIN CEFADROXIL
CEPHALOSPORIN (2nd Generation)	CEFACLOR CEFPROZIL CEFUROXIME
CEPHALOSPORIN (3rd Generation)	CEFIXIME
FLUOROQUINOLONES	CIPROFLOXACIN LEVOFLOXACIN MOXIFLOXACIN HCL NORFLOXACIN OFLOXACIN
GLYCOPEPTIDES	VANCOMYCIN
LINCOSAMIDES	CLINDAMYCIN
MACROLIDES	AZITHROMYCIN CLARITHROMYCIN ERYTHROMYCIN FIDAXOMICIN
PENICILLINS	AMOXICILLIN AMOXICILLIN & CLAVULANIC ACID AMPICILLIN CLOXACILLIN PENICILLIN V
SULFONAMIDES, TRIMETROPRIM AND COMBINATION	SULFAMETHOXAZOLE & TRIMETHOPRIM TRIMETHOPRIM
TETRACYCLINES	DOXYCYCLINE HYCLATE MINOCYCLINE HCL TETRACYCLINE
URINARY ANTI-INFECTIVES	FOSFOMYCIN TROMETHAMINE NITROFURANTOIN
ANTIBIOTICS: OTHER	METRONIDAZOLE LINEZOLID

Section 2: Opioid Prescribing

Opioids Dispensed

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

Indicator Description

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.

OH(Q) Reporting tool/product: MyPractice: Primary Care Report

Type: Process indicator

External Alignment: Not applicable

Other Reporting: Not applicable

Accountability: This indicator is strictly for quality improvement efforts and is not for accountability.

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Patients dispensed an opioid within a 6-month reporting period.

Notes:

- OAT, cough and antidiarrheal opioid medications were not included in the opioid definition.
- For a complete list of medications, please see table A.
- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids.
- This indicator is also stratified by the provider who prescribed the opioid, defined as:

  "By me": the assigned physician prescribed at least one opioid that was dispensed to the patient.

  "By others": the assigned physician did not prescribe any opioids that were dispensed to the patient.

For Groups, these strata become:

"By Most Responsible Physician"
"By Other Providers"

For FHTs:
"By the patient's assigned physician within the FHT"
"By other providers within or outside of the FHT"

Denominator

Patients assigned (rostered & virtually rostered) to a physician for the specific reporting period.

Exclusions:

- Patients less than one year of age.
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes.

Methods

Numerator / Denominator * 100%

Numerator / Denominator * 100%

$$\frac{\text{Patients dispensed an opioid during the 6 – month reporting period}}{\text{Patients assigned to the primary care physician}} \text{ x } 100\%$$

Adjustment (risk, age/sex standardization)

None

Data Source / data elements:

Data provider: ICES

Data sources: Client Agency Program Enrollment (CAPE), Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS)

Other Relevant Information

Limitations / Caveats

- Dispensed prescriptions don't always reflect actual use.
- Opioids obtained through other means such as out- of- province or hospital dispensing, were not captured in the calculation of this indicator.

Comments:

The provincial-level results include patients not assigned to a physician.

New Opioids Dispensed

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

Indicator Description

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.

OH(Q) Reporting tool/product: MyPractice: Primary Care Report

Type: Process indicator

External Alignment: Not applicable

Other Reporting: Not applicable

Accountability: This indicator is strictly for quality improvement efforts and is not for accountability.

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Patients newly dispensed an opioid within a 6-month reporting period.

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).

Notes:

- OAT, cough and antidiarrheal opioid medications were not included in the opioid definition.
- For a complete list of medications, please see table A.
- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids.
- This indicator is also stratified by the provider who prescribed the opioid, defined as:

  "By me": the assigned physician prescribed at least one of the newly started opioids dispensed to the patient.

  "By others": the assigned physician did not prescribe any of the newly started opioids that were dispensed to the patient.

For Groups, these strata become:
"By Most Responsible Physician"
"By Other Providers"

For FHTs:
"By the patient's assigned physician within the FHT"
"By other providers within or outside of the FHT"

Denominator

Patients assigned (rostered & virtually rostered) to a physician for the specific reporting period.

Exclusions:

- Patients less than one year of age.
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes.

Methods

Numerator / Denominator * 100%

Numerator / Denominator * 100%

$$\frac{\text{Patients newly dispensed an opioid during the 6 – month reporting period}}{\text{Patients assigned to the primary care physician}} \text{ x } 100\%$$

Adjustment (risk, age/sex standardization)

None

Data source / data elements:

Data provider: ICES

Data sources: Client Agency Program Enrollment (CAPE), Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS)

Other Relevant Information

Limitations / Caveats:

- Dispensed prescriptions do not always reflect actual use.
- Opioids obtained through other means such as out- of- province or hospital dispensing, were not captured in the calculation of this indicator.

Comments:

- The provincial-level results include patients not assigned to a physician.

Opioids and Benzodiazepines Dispensed

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

Indicator description

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.

OH(Q) Reporting tool/product: MyPractice: Primary Care Report

Type: Process indicator

External Alignment: Not applicable

Other Reporting: Not applicable

Accountability: This indicator is strictly for quality improvement efforts and is not for accountability.

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Patients who have an opioid (including OAT) and a benzodiazepine prescription dispensed at any time within a 6-month reporting period.

Notes:

- Cough and antidiarrheal opioid medications were not included in the opioid definition.
- For a complete list of medications, please see table A.
- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids and/or benzodiazepines.
- Prescriptions do not have to be dispensed together or overlap in any way.
- This indicator is also stratified by the provider who prescribed the opioid and/or benzodiazepine, defined as:

  "By me": the assigned physician prescribed both an opioid and benzodiazepine that were dispensed to the patient.
  "By others": the assigned physician did not prescribe both an opioid and benzodiazepine that were dispensed to the patient.

  For Groups, these strata become:
  "By Most Responsible Physician"
  "By Other Providers"

  For FHTs:
  "By the patient's assigned physician within the FHT"
  "By other providers within or outside of the FHT"

Denominator

Patients assigned (rostered & virtually rostered) to a physician for the specific reporting period.

Exclusions:

- Patients less than one year of age.
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes.

Methods

Numerator / Denominator * 100%

Numerator / Denominator * 100%

$$\frac{\text{Patients dispensed an opioid and benzodiazepine during the 6 – month reporting period}}{\text{Patients assigned to the primary care physician}} \text{ x } 100\%$$

Adjustment (risk, age/sex standardization)
None

Data source / data elements:

Data provider: ICES

Data sources: Client Agency Program Enrollment (CAPE), Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS)

Other Relevant Information

Limitations / Caveats:

- Dispensed prescriptions do not always reflect actual use.
- Opioids obtained through other means such as out- of- province or hospital dispensing, were not captured in the calculation of this indicator.

Comments:

- 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.
- The provincial-level results include patients not assigned to a physician.

High-Dose Opioids Dispensed

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

Indicator description

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.

OH(Q) Reporting tool/product: MyPractice: Primary Care Report

Type: Process indicator

External Alignment: Not applicable

Other Reporting: Not applicable

Accountability: This indicator is strictly for quality improvement efforts and is not for accountability.

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Patients who had an average daily dose of > 90 MEQ on at least one day within a 6-month reporting period.

Please see table B for MEQ calculations.

Notes:

- The average daily doses were summed for patients receiving two or more opioid products on a single day.
- 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.
- For a complete list of medications, please see table A.
- Dispensed prescriptions could be prescribed by the assigned physician or other providers in the health system who can prescribe opioids.
- This indicator is also stratified by the provider who prescribed the opioid, defined as:

  "By me": the assigned physician prescribed >90 MEQ to the patient on at least one day.
  "By others": the assigned physician did not prescribe >90 MEQ to the patient on at least one day.

For Groups, these strata become:
"By Most Responsible Physician"
"By Other Providers"

For FHTs:
"By the patient's assigned physician within the FHT"
"By other providers within or outside of the FHT"

Denominator

Patients assigned (rostered & virtually rostered) to a physician for the specific reporting period.

Exclusions:

- Patients less than one year of age.
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes.

Methods
Numerator / Denominator * 100%

Numerator / Denominator * 100%

$$\frac{\text{Patients who have had an average daily dose of} > 90 \text{ MEQ on at least one day during the } 6-\text{month reporting period}}{\text{Patients assigned to the primary care physician}} \times 100\%$$

"

Adjustment (risk, age/sex standardization)
None

Data source / data elements:

Data provider: ICES

Data sources: Client Agency Program Enrollment (CAPE), Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), Registered Persons Database (RPDB), Narcotics Monitoring System (NMS)

Other Relevant Information

Limitations / Caveats:

- Dispensed prescriptions do not always reflect actual use.
- Days' supply for the PRN medications are estimated in the NMS.
- 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.
- Opioids obtained through other means such as out- of- province or hospital dispensing, were not captured in the calculation of this indicator.

Comments:

- 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.

- The high dose could have been dispensed before the 6-month reporting period, but the prescription ran into the reporting period.
- The provincial-level results include patients not assigned to a physician.

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

Opioid agonist therapy (OAT): Drug name

- 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)

Opioid containing cough medications: Drug name

- 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

Opioid-containing antidiarrheal medications: Drug name

- Atropine sulfate & diphenoxylate HCL

Table A: 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: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3215602/pdf/0571257.pdf

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)	12.5mcg/h→30-67morphine* 25mcg/h→60-134mg morphine 37.5mcg/h→135-179mg morphine 50mcg/h→180-224mg morphine 75mcg/h→270-314mg morphine 100mcg/h→360-404mg morphine If 12.5mcg/h then Fent_Equiv = 1 If 25mcg/h then Fent_Equiv = 2 If 37.5mcg/h then Fent_equiv=3 If 50mcg/h then Fent_equiv=4 If 75mcg/h then Fent_equiv=5 If 100mcg/h then Fent_equiv=6 *12.5 was assumed based on a 3.8 meq/ug	If day supply/quantity=2 then: Fent_equiv=1 à 1:48*2 Fent_equiv=2 → 1:97*2 Fent_equiv=3 → 1:157*2 Fent_equiv=4 → 1:202*2 Fent_equiv=5 → 1:292*2 Fent_equiv=6 → 1:382*2 If day supply/quantity is not equal to 2 then adjust fentanyl day supply when <3 days to equal 3 and use the following conversion: Fent_equiv=1 à 1:48*3 Fent_equiv=2 → 1:97*3 Fent_equiv=3 → 1:157*3 Fent_equiv=4 → 1:202*3 Fent_equiv=5 → 1:292*3 Fent_equiv=6 → 1:382*3
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
Opioid	Number Mg	Ratio (opioid:morphine)

Section 3: Cancer Screening

Pap Smear Screening

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

Indicator Description

This indicator is measuring the percentage of female patients aged 21 to 69 years who had a Pap test within the previous three years.

OH(Q) Reporting tool/product: Primary Care Performance Measurement (PCPM) Framework

Type: Process indicator

External Alignment: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) and Cancer Care Ontario (CCO)

Other reporting: Cancer Quality Council of Ontario (CQCO), Ministry of Health and MOHLTC Health Analytics Branch - Resource for Indicator standards (RIS)

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator
Number of screen eligible women aged 21 to 69 years who had a Pap smear within the past three years

Includes:

- Ontario women aged 21-69 years at the index date
- Pap tests identified using fee codes in OHIP (E430, E431, G365, G394a, L812, Q678, L713, and L733)
- Each woman is counted once regardless of the number of Pap tests performed in a three-year period

Denominator
Total number of screen-eligible women aged 21 to 69 years at index date

Excludes:

- Women with a missing or invalid HCN, date of birth, LHIN or postal code
- Women with a history of cervical cancer (ICD-O-3 codes: C53.x) and/or a hysterectomy (OHIP fee codes: P042, S710, S727, S757, S758, S759, S762, S763, S765, S766, S767, S810, and S816)
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods

$$\frac{\text{Number of screen eligible women aged 21 to 69 years who had a Pap smear within the past three years}}{\text{Total number of screen-eligible women aged 21 to 69 years at index date}} \times 100\%$$

Adjustment: N/A

Data source / data elements:

Measure source: Cancer Quality Council of Ontario (CQCO), Primary Care Performance Measurement Framework (PCPM)

Data provider: ICES

Data source: Ontario Health Insurance Program (OHIP), Registered Persons Database (RPDB), Ontario Cancer Registry (OCR)

Other Relevant Information

Limitations / Caveats:

- A small proportion of Pap tests performed as a diagnostic test could not be excluded from the analysis.
- The indicator does not capture test done in hospital laboratories or paid through alternate payment plans such as out-of-pocket.

Mammogram Screening

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

Indicator Description

Percentage of screen eligible female patients aged 50 to 74 years who had a mammogram within the past two years.

OH(Q) Reporting tool/product: Primary Care Performance Measurement (PCPM) Framework

Type: Process indicator

External Alignment: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) and Cancer Care Ontario (CCO)

Other reporting: Cancer Quality Council of Ontario (CQCO), Ministry of Health and MOHLTC Health Analytics Branch - Resource for Indicator standards (RIS)

Accountability: Primary Care

Definition and Source Information

Calculation:

Numerator
Total number of screen-eligible women aged 50 to 74years, who have completed at least one mammogram in the past two years

Includes:

- Ontario women aged 50 to 74 years at the index date
- The OBSP database was used to identify mammograms for screening purposes; all mammograms in OBSP were counted including those with partial views.
- Following mammograms were identified using OHIP fee codes (X 178 bilateral screening mammography; X185 diagnostic bilateral mammography)
- Each woman was counted once regardless of the number of mammograms performed in a two-year period

Denominator

Total number of screen-eligible women, aged 50 to 74 years at index date

Excludes:

- Women with a missing or invalid HCN, date of birth or postal code
- Women with a history of breast cancer (ICD-O-3 codes: C50.x)
- Women with a history of mastectomy (OHIP fee codes: R108, R109, and R117)
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods

$$\frac{\text{Total number of screen-eligible women aged 50 to 74years, who have completed at least one mammogram in the past two years}}{\text{Total number of screen-eligible women aged 50 to 74 years at index date}} \times 100\%$$

Adjustment N/A

Data source / data elements:

Measure source: Cancer Quality Council of Ontario (CQCO), Primary Care Performance Measurement Framework (PCPM)

Data provider: ICES

Data source: Ontario Health Insurance Program (OHIP), Registered Persons Database (RPDB), Ontario Cancer Registry (OCR), OBSP (Ontario Breast Screening Program Database)

Other Relevant Information

Limitations / Caveats:

- A small proportion of Pap tests performed as a diagnostic test could not be excluded from the analysis.
- The indicator does not capture test done in hospital laboratories or paid through alternate payment plans such as out-of-pocket.

Colorectal Screening

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

Indicator description

Percentage of screen eligible patients aged 50 to 74 years who had a FOBT/FIT within the past two years, flexible sigmoidoscopy, or colonoscopy within the past 10 years.

OH(Q) Reporting tool/product: Primary Care Performance Measurement (PCPM) Framework

Type: Process indicator

External Alignment: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) and Cancer Care Ontario (CCO)

Other reporting: Cancer Quality Council of Ontario (CQCO), Ministry of Health and MOHLTC Health Analytics Branch - Resource for Indicator standards (RIS)

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator
Number of screen eligible patients aged 50 to 74 years who had a FOBT/FIT within the past two years, flexible sigmoidoscopy, or colonoscopy within the past 10 years.

Includes:
Patients who received one of the following:

- A fecal occult blood test (FOBT) or fecal immunochemical test (FIT) using OHIP fee codes (L179, L181, G004, Q152, Q043, and Q133; any physician billings for codes L181 and G004 from January 1st, 2020 onwards are excluded) in the past 2 years
- A colonoscopy in the previous 10 years, OHIP fee codes Z491 through Z499, or Z555
- A flexible sigmoidoscopy in the previous 10 years, OHIP fee code Z580

Denominator
Number of screen-eligible patients aged 50 to 74 years at index date

Excludes:

- Patients with a missing or invalid HCN, date of birth or postal code
- Patients who have ever had colon cancer (ICD-O-3 codes: C18.0, C18.2, C18.3, C18.4, C18.5, C18.6, C18.7, C18.8, C18.9, C19.9, C20.9), or total colectomy (OHIP fee codes: S169, S170, and S172)
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods

$$\frac{\text{Number of screen eligible patients aged 50 to 74 years who had a FOBT/FIT within past two years, flexible sigmoidoscopy, or a colonoscopy within the past 10 years}}{\text{Number of screen-eligible patients aged 50 to 74 years at index date}} \times 100\%$$

Adjustment: N/A

Data source / data elements:

Measure source: Cancer Quality Council of Ontario (CQCO), Primary Care Performance Measurement Framework (PCPM)

Data provider: ICES

Data source: Ontario Health Insurance Program (OHIP), Registered Persons Database (RPDB), Ontario Cancer Registry (OCR)

Other Relevant Information

Limitations / Caveats:

- A small proportion of FOBTs performed as diagnostic tests could not be excluded from the analysis.
- FOBTs analyzed in hospital labs could not be captured.

Comments:

- Definition updated in November 2016 to exclude barium enema and rigid sigmoidoscopy to align with CCO's definition.
- On June 24, 2019, Ontario transitioned from the guaiac fecal occult blood test (gFOBT) to the fecal immunochemical test (FIT) in the ColonCancerCheck Program as the recommended screening test for people at average risk of developing colorectal cancer. Beginning with the September 2019 data cycle, the CRC screening indicator has been updated, including the addition of FIT. Beginning with the March 2020 data cycle, OHIP fee codes L181 and G004 were excluded for OHIP services rendered beginning January 2020 as gFOBT is no longer considered up-to-date for colorectal cancer screening.

Section 4: Diabetes Management

HbA1c Testing to Prevent Complications from Diabetes

Percentage of patients with diabetes up-to-date with glycated hemoglobin (HbA1c) tests

Indicator description

Percentage of patients with diabetes who have had two or more glycated hemoglobin (HbA1c) tests within the past 12 months

OH(Q) Reporting tool/product: Primary Care Performance Measurement (PCPM) Framework

Type: Process indicator

External Alignment: Ontario Diabetes Strategy (ODS), Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) Health Analytics Branch - Resource for Indicator standards (RIS), Baseline Diabetes Dataset Initiative (BDDI), Canadian Institute for Health Information (CIHI)

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator
Number of patients with diabetes who have had two or more glycated hemoglobin (HbA1c) tests within the past 12 months

Includes:

- Ontario residents who are identified in the ODD as having diabetes in the previous two years
- HbA1c tests are defined by the OHIP fee code (L093)

Denominator
Total number of diabetes patients

Excludes:

- Patients who were not residents in Ontario in each year
- Patients with a missing or invalid HCN, date of birth or postal code
- Women with gestational diabetes
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes
- Patients less than one year of age

Methods

$$\frac{\text{Number of patients with diabetes who have had two or more glycated hemoglobin (HbA1c) tests within the past 12 months}}{\text{Total number of patients with diabetes}} \quad \text{X } 100\%$$

Adjustment: N/A

Data source / data elements:

Measure source: Diabetes Canada

Data provider: ICES

Data Source: 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 Health Insurance Program (OHIP)

Other Relevant Information

Limitations / Caveats:

- The ODD does not differentiate between type I and type II diabetes mellitus.
- 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.

Comments:

- Click here for further information on the methodology used to generate a diabetes chronic disease cohort from which patients with diabetes in this measure are drawn.

Retinal Exam Testing to Prevent Complications from Diabetic Retinopathy

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

Indicator description

Percentage of patients with diabetes who have had at least one retinal exam with an ophthalmologist or optometrist in the past 24 months

OH(Q) Reporting tool/product: Primary Care Performance Measurement (PCPM) Framework

Type: Process indicator

External Alignment: Ontario Diabetes Strategy (ODS), Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) Health Analytics Branch - Resource for Indicator standards (RIS), Baseline Diabetes Dataset Initiative (BDDI), Canadian Institute for Health Information (CIHI)

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator
Number of patients with diabetes who have had at least one retinal exam with an ophthalmologist or optometrist in the past 24 months

Includes:

- Ontario residents who are identified in the ODD as having diabetes in the previous two years
- Only includes patients who received a retinal examination in the past two years as defined by the OHIP fee codes:
    - A111, A112, A114, A115: as long as the treating physician specialty is family medicine, general medicine, or ophthalmologist
    - A233, A234, A235, A236, A238, A239, A240, A252, A253, A254, K065, K066: as long as the specialist is an ophthalmologist
    - C233, C234, C235, C236: as long as the specialist is an ophthalmologist
    - V401, V402, V405, V406, V407, V408, V409, V450, V451: as long as the specialist is an optometrist

Denominator
Total number of patients with diabetes

Excludes:

- Patients who were not residents in Ontario in each year
- Patients with a missing or invalid HCN, date of birth or postal code
- Patients lost to follow-up
- Women with gestational diabetes
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes
- Patients less than one year of age

Methods

$$\frac{\text{Number of patients with diabetes who have had at least one retinal exam with an ophthalmologist or optometrist in the past 24 months}}{\text{Total number of patients with diabetes}} \quad \text{X } 100\%$$

Adjustment: N/A

Data source / data elements:

Measure source: Diabetes Canada

Data provider: ICES

Data Source: 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 Health Insurance Program (OHIP)

Other Relevant Information

Limitations / Caveats:

- ODD does not differentiate between Type I and II cases.
- 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.
- 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.

Comments:

- Click here for further information on the methodology used to generate a diabetes chronic disease cohort from which patients with diabetes in this measure are drawn.

Statins Dispensed to Prevent Vascular Complications from Diabetes

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

Indicator description

Percentage of patients with diabetes aged 66 years and older who have been prescribed a statin within the past 12 months
* Please refer to the comments section for a definition of a patient with diabetes.

OH(Q) Reporting tool/product: Primary Care Performance Measurement (PCPM) Framework

Type: Process indicator

External Alignment: Ontario Diabetes Strategy (ODS), Canadian Institute for Health Information (CIHI), Diabetes Canada (CDA)

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator
Number of patients with diabetes aged 66 years and older with a prescription for a statin within the past 12 months

Denominator
Total number of patients with diabetes aged 66 years and older

Excludes:

- Patients who were not residents in Ontario in each year
- Patients with a missing or invalid HCN, date of birth or postal code
- Age on index date in each corresponding year exams: <65 years
- Patients lost to follow-up
- Women with gestational diabetes
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods

$$\frac{\text{Number of patients with diabetes aged 66 years and older with a prescription for a statin within the past 12 months}}{\text{Total number of patients with diabetes aged 66 years and older}} \times 100\%$$

Adjustment: N/A

Data source / data elements:

Measure source: Diabetes Canada

Data provider: ICES

Data Source: Ontario Diabetes Database (ODD) [comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database), Ontario Drug Benefit Claims (ODB)] and Ontario Drug Benefit Claims (ODB)

Other Relevant Information

Limitations / Caveats:

- Only able to capture prescribed medication data for patients aged 66 and older from ODB
- ODD does not differentiate between Type I and II cases

Comments:

- Click here for further information on the methodology used to generate a diabetes chronic disease cohort from which patients with diabetes in this measure are drawn.

Section 5: Health Service Utilization

Total emergency department (ED) visits

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

Indicator Description

Adjusted and unadjusted rate of ED visits measured as level 1-5 on the Canadian Triage and Acuity Scale (CTAS) per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Rate per 1,000 patients

Calculation:

Numerator

Number of ED visits for conditions measured as CTAS level 1, 2, 3, 4 or 5 in the previous year

Inclusion:

- CTAS level 1: Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate aggressive interventions
- CTAS level 2: Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or delegated acts
- CTAS level 3: 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
- CTAS level 4: Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1–2 hours
- CTAS level 5: 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[1]

Exclusion:

- Visits with an inpatient admission

Denominator

Total number of patients in the previous year

- Exclusion:
- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of visits to the ED for conditions measured as CTAS level 1, 2, 3, 4 or 5 in the previous year}}{\text{Total number of patients the previous year}} \times 1{,}000$$

Adjustment: 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.

Data source / data elements:

Data provider: ICES

Data source: National Ambulatory Care Reporting System (NACRS)

Other Relevant Information

Limitations / Caveats: N/A

Sources:

1. National Ambulatory Care Reporting System (NACRS). “Emergency Department Trends, 2012-2013”. Canadian Institute for Health Information (CIHI).

Urgent emergency department (ED) visits

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

Indicator description

Adjusted and unadjusted rate of urgent ED visits measured as level 1-3 on CTAS per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Rate per 1,000 patients

Calculation:

Numerator

Number of ED visits for conditions measured as CTAS level 1, 2 or 3 in the previous year

Inclusion:

- CTAS level 1: Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate aggressive interventions
- CTAS level 2: Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or delegated acts
- CTAS level 3: 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[1]

Exclusion:

- Visits with an inpatient admission
- Visits with CTAS 4, or 5 and planned emergency visits

Denominator

Total number of patients in the previous year

Exclusion:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of visits to the ED for conditions measured as CTAS level 1, 2, or 3 in the previous year}}{\text{Total number of patients in the previous year}} \times 1{,}000$$

Adjustment: 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.

Data source / data elements:

Data provider: ICES

Data source: National Ambulatory Care Reporting System (NACRS)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

Sources:

1. National Ambulatory Care Reporting System (NACRS). "Emergency Department Trends, 2012-2013". Canadian Institute for Health Information (CIHI).

Less urgent emergency department (ED) visits

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

Indicator description

Adjusted and unadjusted rate of less urgent ED visits measured as level 4-5 on CTAS per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Rate per 1,000 patients

Calculation:

Numerator

Number of ED visits for conditions measured as CTAS level 4 or 5 in the previous year

Inclusion:

- CTAS level 4: Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1 –2 hours
- CTAS level 5: 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[1]

Exclusion:

- Visits with an inpatient admission
- Visits with CTAS 1, 2 or 3 and planned emergency visits

Denominator

Total number of patients in the previous year

Exclusion:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of visits to the ED for conditions measured as CTAS level 4 or 5 in the previous year}}{\text{Total number of patients in the previous year}} \times 1{,}000$$

Adjustment: 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.

Data source / data elements:

Data provider: ICES

Data source: National Ambulatory Care Reporting System (NACRS)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

Sources:

1. National Ambulatory Care Reporting System (NACRS). "Emergency Department Trends, 2012-2013". Canadian Institute for Health Information (CIHI).

Hospital readmissions within 30 days

Percentage of hospital readmissions within 30 days

Indicator description

Adjusted and unadjusted rate of less urgent ED visits measured as level 4-5 on CTAS per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Rate per 1,000 patients

Calculation:

Numerator

Number of ED visits for conditions measured as CTAS level 4 or 5 in the previous year

Inclusion:

- CTAS level 4: Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1 –2 hours
- CTAS level 5: 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[1]

Exclusion:

- Visits with an inpatient admission
- Visits with CTAS 1, 2 or 3 and planned emergency visits

Denominator

Total number of patients in the previous year

Exclusion:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of readmissions to a hospital for urgent and emergent care within 30 days of discharge}}{\text{Total number of patients discharged from a hospital}} \times 100\%$$

Adjustment: 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.

Data source / data elements:

Data provider: ICES

Data source*:* National Ambulatory Care Reporting System (NACRS)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

Sources: N/A

Hospital readmissions within 1 year

Percentage of hospital readmissions within 1 year

Indicator description

Percentage of patients who were re-admitted to a hospital for urgent and emergent care within 1 year of discharge (adjusted and unadjusted percentages)

OH(Q) Reporting tool/product: Primary Care Performance Measurement (PCPM) Framework

Type: Process

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Number of readmissions to a hospital for urgent and emergent care within 1 year of discharge

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[1]

Denominator

Total number of patients discharged from a hospital

Exclusion:

- Excludes patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of readmissions to a hospital for urgent and emergent care within 1 year of discharge}}{\text{Total number of patients discharged from a hospital}} \times 100\%$$

Adjustment: 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.

Data source / data elements:

Measure source: Primary Care Performance Measurement (PCPM) Framework

Data provider: ICES

Data source: Discharge Abstract Database (DAD)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

Sources: N/A

Total ACSC Admissions

Indicator description

Adjusted rate of hospital admissions for one or more of the following conditions: asthma, CHF, COPD and diabetes per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Per 1,000 patients

Calculation:

Numerator

The number of acute care hospital admissions for the following ACSCs: asthma, COPD, CHF, or diabetes (see codes below) in the previous year

Includes (by ICD 10 diagnosis):

- All acute care hospital admissions with ICD 10 code(s) for
  - Asthma: codes beginning with J45
  - COPD: J41, J42, J43, J44, J47
  - CHF: I500, J81; excluding cases with cardiac procedures and that are not coded as abandoned on onset
  - 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

Excludes:

- In-hospital complications
- Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54
- Cases where death occurs before discharge
- Excludes patients less than one year of age

Denominator

Total number of patients in the previous year

Exclusions:

- Excludes patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{The number of acute care hospital admissions for one or more of the following conditions: asthma, CHF, COPD and diabetes in the previous year}}{\text{Total number of patients}} \quad \text{X } 1{,}000$$

Adjustment: 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.

Data source / data elements:

Measure source: Canadian Institute for Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)

Data provider: ICES

Data source: Discharge Abstract Database (DAD)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

Asthma ACSC Admissions

Indicator description

Adjusted rate of hospital admissions for asthma per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Per 1,000 patients

Calculation:

Numerator

The number of acute care hospital admissions for asthma (see codes below) in the previous year

Includes:

- Hospital admissions with ICD 10 code(s) for asthma (codes beginning with J45)

Excludes:

- In-hospital complications
- Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54
- Cases where death occurs before discharge
- Excludes patients less than one year of age

Denominator

Total number of patients

Exclusion:

- Excludes patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{The number of acute care hospital admissions for asthma in the previous year}}{\text{Total number of patients}} \quad \text{X } 1{,}000$$

Adjustment: 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.

Data source / data elements:

Measure source: Canadian Institute for Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)

Data provider: ICES

Data source: Discharge Abstract Database (DAD)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

CHF ACSC Admissions

Indicator description

Adjusted rate of hospital admissions for CHF per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Per 1,000 patients

Calculation:

Numerator

The number of acute care hospital admissions for asthma (see codes below) in the previous year

Includes

- 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

Excludes:

- In-hospital complications
- Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54
- Cases where death occurs before discharge
- Excludes patients less than one year of age

Denominator

Total number of patients> 1 year of age

Exclusion:

- Excludes patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{The number of acute care hospital admissions for CHF in the previous year}}{\text{Total number of patients}} \times 1{,}000$$

Adjustment: 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.

Data source / data elements:

Measure source: Canadian Institute for Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)

Data provider: ICES

Data source: Discharge Abstract Database (DAD)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

COPD ACSC Admissions

Indicator description

Adjusted rate of hospital admissions for COPD per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Per 1,000 patients

Calculation:

Numerator

The number of acute care hospital admissions for COPD (see codes below) in the previous year

Includes:

- Hospital admissions with ICD 10 code(s) for COPD (J41, J42, J43, J44, J47)

Excludes:

- In-hospital complications
- Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54
- Cases where death occurs before discharge

Denominator

Total number of patients

Exclusions:

- Excludes patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{The number of acute care hospital admissions for COPD in the previous year}}{\text{Total number of patients}} \quad \text{X } 1{,}000$$

Adjustment: 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.

Data source / data elements:

Measure source: Canadian Institute for Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)

Data provider: ICES

Data source: Discharge Abstract Database (DAD)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

Diabetes ACSC Admissions

Indicator description

Adjusted rate of hospital admissions for diabetes per 1,000 patients

OH(Q) Reporting tool/product: N/A

Type: Outcome indicator

External Alignment: N/A

Other reporting: Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) – Resource for Indicator Standards (RIS), Canadian Institute for Health Information (CIHI)

Accountability: Primary Care, Acute Care

Definition and Source Information

Unit of analysis: Per 1,000 patients

Calculation:

Numerator

The number of acute care hospital admissions for diabetes (see codes below) in the previous year

Includes

- 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

Excludes:

- In-hospital complications
- Admissions with the following CCI codes: 1IJ50, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HZ85, 1HB54, 1HD54
- Cases where death occurs before discharge

Denominator

Total number of patients

Exclusions:

- Excludes patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{The number of acute care hospital admissions for diabetes in the previous year}}{\text{Total number of patients}} \times 1{,}000$$

Adjustment: 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.

Measure source: Canadian Institute for Health Information (CIHI), Ministry of Health and Long-Term Care Resource for Indicator Standards (RIS)

Data source / data elements:

Data provider: ICES

Data source: Discharge Abstract Database (DAD)

Other Relevant Information

Limitations / Caveats: N/A

Comments: N/A

Visits to own physician

Indicator description

The percentage of primary care visits by patients rostered or virtually rostered to the physician

Relevance/Rationale: 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.

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM)

Type: Outcome indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

The number of primary care visits to the physician in the past two years by patients rostered or virtually rostered to the physician

Denominator
Total number of primary care visits in the system in the past two years by patients rostered or virtually rostered to the physician

Exclusions:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{The number of primary care visits to the physician in the past two years by patients rostered or virtually rostered to the physician}}{\text{Total number of primary care visits in the system in the past two years by patients rostered or virtually rostered to the physician}} \text{ X } 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time.

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), Client Agency Program Enrollment (CAPE)

Other Relevant Information

Limitations / Caveats: N/A

Visits to own group (Regular Primary Care Provider – Team)

Indicator description

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

OH(Q) Reporting tool/product: N/A

Type: Process indicator

External Alignment: AFHTO Data 2 Decisions

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

The number of primary care visits by the patient to their own physician's group in the past two years

Denominator

Total number of primary care visits in the system in the past two years

Exclusions:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{The number of primary care visits by the patient to their own physician's group in the past two years}}{\text{Total number of primary care visits in the system in the past two years}} \text{ X } 100\%$$

Adjustment: Indicator is not adjusted and is reported as a percentage

Data source / data elements:

Data provider: ICES

Data source*:* Ontario Health Insurance Plan (OHIP), Client Agency Program Enrollment (CAPE)

Other Relevant Information

Limitations / Caveats: N/A

Section 6: 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 73%, specificity of 95%, positive predictive value of 87% and negative predictive value of 88%.[1]

Congestive Heart Failure (CHF)

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%.[2]

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%.[3]

Mental Health Diagnosis

The case-definition algorithm to measure ambulatory mental health service provision in primary care uses a two-year lookback period from the index date into the OHIP physician billing claims data, and identifies individuals who either: 1) had a physician visit in the office, home, or LTC setting with a mental health related OHIP diagnosis code (295, 296 297, 298 [psychotic disorders]; 300, 301, 302, 306, 309, 311 [non-psychotic disorders]; 303, 304 [substance-use disorders]; 897, 898, 899, 900, 901,902, 904, 905, 906, 909 [family circumstances or social problems]); or 2) had a physician bill a patient tracking code of Q020 or Q021 which are serious mental illness premium fee codes for individuals with bipolar disorder and schizophrenia, respectively. A similar administrative data case-

[1] 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.

[2] 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.

[3] 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.

definition algorithm has a sensitivity of 81%, a specificity of 97%, and a PPV of 85% for ambulatory mental health service provision in primary care.[4]

Please note: The current definition does include visits where the location is billed as phone (P) which would be used for OHIP fee codes for virtual care billings (e.g., K081 or K082) during the COVID-19 pandemic.

Diabetes
Up until 2017, the algorithm to identify patients with diabetes links different databases at ICES and was 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 hospitalization with a diagnostic code of diabetes within 2 years. The administrative data case-definition algorithm for diabetes has a sensitivity of 86% and specificity of 97%.[5] The diabetes case definition was updated to include diabetes drug benefit claims as well as changes to the lookback periods using the following algorithm: at least one hospital admission in the past year for diabetes mellitus or one diabetes mellitus drug claim in the Ontario Drug Benefit database (ODB) or at least two diagnostic codes for diabetes (Dx Code 250) in OHIP in the past year. The updated case-definition algorithm for diabetes has a sensitivity of 90% and specificity of 97.7%.[6] Patients with gestational diabetes are excluded from the case definition of diabetes.

Chronic Disease Cohorts: Hypertension

Indicator description

Percentage of patients with hypertension

OH(Q) Reporting tool/product: N/A

Type: Contextual indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

[4] 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.

[5] 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

[6] Lipscombe LL, Hwee J, Webster L, Shah BR, Booth GL, Tu K. Identifying diabetes cases from administrative data: a population-based validation study. BMC Health Services Research 2018; 18: 316.

Calculation:

Numerator

Number of patients with a diagnosis of hypertension

Denominator

Total number of rostered or virtually rostered patients

Exclusions:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of patients with hypertension}}{\text{Total number of rostered or virtually rostered patients at index date}} \text{ X } 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time.

Data source / data elements:

Data provider: ICES

Data source: Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP) physician billing claims

Other Relevant Information

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 7 years of index

Comments:

- 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
- Click here for further information on how this cohort was generated

Chronic Disease Cohorts: Congestive Heart Failure (CHF)

Indicator description

Percentage of patients with CHF

OH(Q) Reporting tool/product: N/A

Type: Contextual indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Number of patients diagnosed with CHF

Denominator

Total number of rostered or virtually rostered patients

Exclusions:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of patients with CHF}}{\text{Total number of rostered or virtually rostered patients at index date}} \times 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time

Data source / data elements:

Data provider: ICES

Data source: Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP) physician billing claims, National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI) Ontario Mental Health Reporting System (OMHRS)

Other Relevant Information

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 7 years of index

Comments:

- A patient is said to have CHF if they had one hospital admission (either from 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
- Click here for further information on how this cohort was generated

Chronic Disease Cohorts: Acute Myocardial Infarction (AMI)

Indicator description

Percentage of patients with AMI

OH(Q) Reporting tool/product: N/A

Type: Contextual indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Number of patients diagnosed with AMI

Denominator
Total number of rostered or virtually rostered patients

Exclusions:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of patients diagnosed with an AMI}}{\text{Total number of rostered or virtually rostered patients at index date}} \times 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source*:* Discharge Abstract Database (DAD), Same Day Surgery (SDS), Ontario Health Insurance Plan (OHIP) physician billing claims

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 7 years of index

Comments:

- 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.
- Click here for further information on how this cohort was generated

Chronic Disease Cohorts: Mental Health Diagnosis

Indicator description

Percentage of patients who seek primary care services and who have a mental health diagnosis

OH(Q) Reporting tool/product: N/A

Type: Contextual indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Number of patients seeking primary care services in the past two years and who have a mental health diagnosis

Denominator
Total number of rostered or virtually rostered patients

Exclusions:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of patients who had a primary care visit in the past two years and who had a mental health diagnosis}}{\text{Total number of rostered or virtually rostered patients as of index date}} \times 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP) physician billing claims

Limitations / Caveats:

- This indicator measures patient contact with ambulatory mental health service provision in primary care and is not a comprehensive measure of mental health prevalence.
- The indicator is currently under reported as it excludes OHIP billings that have a mental health diagnosis and location equivalent to phone (P) as per OHIP virtual care codes. The indicator will be updated for the next data refresh (March 31 2021 index date).
- Does not capture patients whose date of last contact not within 7 years of index.

Comments:

- Click here for further information on how this cohort was generated

Chronic Disease Cohorts: Diabetes

Indicator description

Percentage of patients with diabetes

OH(Q) Reporting tool/product: N/A

Type: Contextual indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Calculation:

Numerator

Number of patients with a diagnosis of diabetes

Denominator
Total number of rostered or virtually rostered patients

Exclusions:

- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of patients with diabetes}}{\text{Total number of rostered or virtually rostered patients as of index date}} \text{ X } 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time

Other relevant information

Data source / data elements:

Data provider: ICES

Data source*:* Ontario Diabetes Database (ODD), Ontario Health Insurance Plan (OHIP) physician billing claims

Limitations / Caveats:

- Does not capture patients whose date of last contact not within 7 years of index

Comments:

- An individual is said to have diabetes if they at least one hospital admission in the past year for diabetes mellitus or one diabetes mellitus drug claim in the Ontario Drug Benefit database (ODB) or at least two diagnostic codes for diabetes (Dx Code 250) in OHIP in the past year
- Click here for further information on how this cohort was generated

Section 7: Patient Demographics

Number of rostered patients

Indicator description

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

OH(Q) Reporting tool/product: N/A

Type: Structure indicator

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Registered Persons Database (RPDB), Client Agency Program Enrollment (CAPE), Ontario Health Insurance Plan (OHIP)

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 10 years of index

Comments:

- A small number of physicians will have patients who are rostered in multiple groups, in this case these patients will represented in group with the highest number of patients; those in a group with fewer patients will be reassigned

Age

Indicator description

Patients' age category at index date

OH(Q) Reporting tool/product: N/A

Type: N/A

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Registered Persons Database (RPDB)

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 7 years of index

Comments:

- Age Categories:

1. 1 to 4
2. 5 to 9
3. 10 to 18
4. 19 to 34
5. 35 to 49
6. 50 to 64
7. 65 to 74
8. 75 to 84
9. 85+

Income quintile

Indicator description

Income quintile at the index event using the dissemination area of the patient's residential address

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports

Type: N/A

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Definition and Source Information

Unit of analysis: N/A

Calculation:

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 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.

Data source / data elements:

Data provider: ICES

Data source: Registered Persons Database (RPDB), Statistics Canada 2006 Census

Other Relevant Information

Limitations / Caveats:

- 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.

Comments:

- Values: 1 (low) to 5 (high)

Patients Rurality Index of Ontario (RIO)

Indicator description

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.

OH(Q) Reporting tool/product: N/A

Type: N/A

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Registered Persons Database (RPDB)

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 7 years of index

Comments:

- Kralj B. Measuring Rurality – RIO2008_BASIC: Methodology and Results. Toronto, Ontario: Ontario Medical Association; 2009. Available at:

https://www.oma.org/siteassets/oma/media/pagetree/about-oma/expert--advice/2008rio-fulltechnicalpaper.pdf

Additional Indicators

Section 3: Diabetes Management

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

Indicator description

Percentage of your patients with diabetes for whom a diabetes management assessment code (K030) was claimed in the past year

OH(Q) Reporting tool/product: N/A

Type: Process indicator

External Alignment: Ontario Diabetes Strategy (ODS), Ministry of Health (MOH) and Ministry of Long-Term Care (MLTC) Health Analytics Branch, Baseline Diabetes Dataset Initiative (BDDI), Canadian Institute for Health Information (CIHI)

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Numerator:

Number of patients with diabetes for whom K030 was billed at least once in the past year

Includes:
Ontario residents who are identified as diabetics in the ODD in the previous two years

Denominator:

Total number of patients with diabetes

Excludes:

- Patients who were not residents in Ontario in each year
- Patients with a missing or invalid HCN, date of birth or postal code
- Women with gestational diabetes
- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of patients with diabetes whom K030 was billed at least once in the past year}}{\text{Total number of patients with diabetes}} \text{ X } 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time.

Data source / data elements:

Measure source: MOHLTC Health Analytics Branch

Data provider: ICES

Data source: Ontario Diabetes Database (ODD) (comprising of OHIP (Ontario Health Insurance Program), RPDB (Registered Persons Database) and Discharge Abstract Database (DAD))

Other Relevant Information

Limitations / Caveats:

- ODD does not differentiate between Type I and II cases

Comments:

- Click here for further information on the methodology used to generate a diabetes chronic disease cohort from which patients with diabetes 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

Indicator description

Percentage of your patients with diabetes for whom a diabetes management incentive code (Q040) was claimed in the past year

OH(Q) Reporting tool/product: N/A

Type: Process indicator

External Alignment: 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)

Other reporting: N/A

Accountability: Primary Care

Definition and Source Information

Unit of analysis: Percentage

Numerator:

Number of patients with diabetes whom Q040 was billed at least once in the past year

Includes:

- Ontario residents are identified as diabetics in the ODD in the previous two years

Denominator:

Total number of patients with diabetes

Excludes:

- Patients who were not residents in Ontario in each year
- Patients with a missing or invalid HCN, date of birth or postal code
- Women with gestational diabetes
- Patients less than one year of age
- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

$$\frac{\text{Number of patients with diabetes whom Q040 was billed at least once in the past year}}{\text{Total number of patients with diabetes}} \text{ X } 100\%$$

Adjustment: This data is unadjusted. Unadjusted data reports the physician's actual practice data. This is useful for comparing one's own data over time.

Data source / data elements:

Measure source: MOHLTC Health Analytics Branch

Data provider: ICES

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

Limitations / Caveats:

- ODD does not differentiate between Type I and II cases

Comments:

- Click here for further information on the methodology used to generate a diabetes chronic disease cohort from which patients with diabetes in this measure are drawn.

Section 4: Health Service Utilization

Specialist Visits- Cardiologist

Indicator description

The number of visits to the cardiologist in the previous year by patients rostered or virtually rostered to the physician

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports

Type: Process indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), ICES Physician Database (IPDB)

Limitations / Caveats: N/A

Comments:

- Among patients >1 year of age, the number of visits to a cardiologist in the previous year where the main specialty is cardiology in the IPDB
- Restrict to one visit per patient per physician per day
- Only physician visits that occurred in the office, home, phone, or LTC
- Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Specialist Visits- Endocrinologist

Indicator description

The number of visits to the endocrinologist in the previous year by patients rostered or virtually rostered to the physician

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports

Type: Process indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), ICES Physician Database (IPDB)

Limitations / Caveats: N/A

Comments:

- Among patients >1 year of age, the number of visits to an endocrinologist in the previous year where the main specialty is endocrinology in the IPDB
- Restrict to one visit per patient per physician per day
- Only physician visits that occurred in the office, home, phone, or LTC
- Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Specialist Visits- Internal Medicine Physician

Indicator description

The number of visits to an internal medicine physician in the previous year by patients rostered or virtually rostered to the physician

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports, Home Care Reports

Type: Process indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), ICES Physician Database (IPDB)

Limitations / Caveats: N/A

Comments:

- Among patients >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
- Restrict to one visit per patient per physician per day
- Only physician visits that occurred in the office, home, phone, or LTC
- Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Specialist Visits- Psychiatrist

Indicator description

The number of visits to a psychiatrist in the previous year by patients rostered or virtually rostered to the physician

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM)

Type: Process indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), ICES Physician Database (IPDB)

Limitations / Caveats: N/A

Comments:

- Among patients >1 year of age, the number of visits to a psychiatrist in the previous year where the main specialty is psychiatry in the IPDB
- Restrict to one visit per patient per physician per day
- Only physician visits that occurred in the office, home, phone, or LTC
- Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Specialist Visits- Respirologist

Indicator description

The number of visits to the respirologist in the previous year by patients rostered or virtually rostered to the physician

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM)

Type: Process indicator

External Alignment: N/A

Other reporting: N/A

Accountability: Primary Care

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), ICES Physician Database (IPDB)

Limitations / Caveats: N/A

Comments:

- Among patients >1 year of age, the number of visits to a respirologist in the previous year where the main specialty is respirology in the IPDB
- Restrict to one visit per patient per physician per day
- Only physician visits that occurred in the office, home, phone, or LTC
- Excludes palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Cost

Indicator description

Adjusted per capita health care cost

OH(Q) Reporting tool/product: N/A

Type: Structure

External Alignment: AFHTO Data 2 Decisions

Other reporting: N/A

Accountability: N/A

Definition and Source Information

Unit of analysis: Per capita

Numerator:

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

Denominator:

Total number of patients seen by group/FHT

Excludes:

- Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes

Methods:

The cost subcategories include:

- Primary care costs
  - GP - FFS visits
  - FHO/FHN capitation costs
  - Non-FFS GP/FP visits
- Physician, Lab, drug, ED and outpatient costs
  - OHIP specialty physician FFS costs
  - ODB drug cost
  - Home Care Services cost
  - NACRS ED
  - OHIP lab cost
  - OHIP non-physician cost
  - Other non-FFS visits
  - Emergency Department Alternate Funding Arrangement non-FFS visits
  - Non-FFS medical oncologists
  - Non-FFS radiation oncologists
  - NACRS cancer
  - NACRS dialysis
- Inpatient and same day surgery costs
  - Inpatient (CIHI/DAD)
  - Same Day Surgery (SDS)
  - Inpatient MH
- Long Term Care, Complex Continuing Care and Rehab costs
  - LTC cost
  - CCC cost
  - Rehab (NRS)

Adjustment: This indicator has been risk adjusted for age, sex, income, rurality and co-morbidities.

Other Relevant Information

Data source / data elements:

Measure source: Primary Care Performance Measurement Framework (PCPM)

Data provider: ICES

Data source: 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

Limitations / Caveats:

- Interpretation of this indicator is challenging, as directionality is not clear
- Care delivered in teams is not captured
- Overhead costs for physicians are not captured
- Medical/radiation oncologists' salaries are unavailable for years 2002–2004

Comments:

- 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.[i]

[i] 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.

Only relevant for FHTs reports

Resource Utilization Band (RUB)

Indicator description

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.

OH(Q) Reporting tool/product: N/A

Type: N/A

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), National Ambulatory Care Reporting System (NACRS), Discharge Abstract Database (DAD)

Limitations / Caveats: N/A

Comments:

- Patients are assigned to one of 6 RUB categories:

0-Non-user
1-Healthy User
2-Low Morbidity
3-Moderate Morbidity
4-High Morbidity
5-Very High Morbidity

Standardized ACG Morbidity Index (SAMI)

Indicator description

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 physician1. 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".2 The ACG system uses diagnostic codes derived from all OHIP billing data (unrestricted by fee code and including services provided by physicians to whom the patient is not rostered) and the CIHI Discharge Abstract Database to place patients into one or more of the 30 Adjusted Diagnostic Groups (ADGs).2 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.2,3 Finally, the practice-based ACG morbidity index, known as SAMI, is created by adding specific actual and expected costs to each ACG weight and diving these by the provincial grand mean.3 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.4

The following OHIP fee codes ('in-basket' FHO services) were used to compute the expected health care need for each ACG category: A001; A003; A004; A007; A008; A110; A112; A777; A900; A901; A903; A917; A927; A937; A947; A957; A967; A990; A994; A996; A998; B990; B992; B993; B994; B996; C882; C903; E070; E071; E075; E077; E430; E542; G001; G002; G003; G004; G005; G006; G007; G008; G590; G591; G840; G841; G842; G843; G844; G845; G846; G847; G848; G590; G591; J301; J304; J324;

J327; K001; K002; K003; K004; K005; K006; K007; K008; K013; K015; K017; K080; K081; K082; K130; K131; K132; K700; K702; K730; K731; K732; K733; Q990; Q992; Q994; Q996; Q998; R048; R051; R094; W001; W002; W003; W004; W008; W010; W102; W104; W105; W106; W107; W109; W121; W771; W777; W872; W882; W903; Z101; Z110; Z113; Z114; Z116; Z117; Z122; Z125; Z128; Z129; Z153; Z154; Z156; Z157; Z158; Z159; Z160; Z161; Z162; Z169; Z170; Z171; Z175; Z176; Z314; Z315; Z535; Z543; Z545; Z611; Z847.

OH(Q) Reporting tool/product: N/A

Type: N/A

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Ontario Health Insurance Plan (OHIP), Discharge Abstract Database (DAD), Ontario Mental Health Reporting System (OMHRS)

Limitations / Caveats: N/A

Comments:

- As of September 2016 data point, the SAMI score calculation was updated to include the following OHIP fee codes K130, K131, K132 and E542. As of the September 2020 data point, the SAMI score calculation was updated to include the virtual care codes (K080, K081, K082) instituted in response to the COVID-19 pandemic

Sources:

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.
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.
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).
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.

Section 5: Patient Demographics

Gender

Indicator description

Proportion of patients that are male or female

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports

Type: N/A

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Registered Persons Database (RPDB)

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 7 years of index

Comments:

- Excludes Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes.

Recent Immigrants

Indicator description

Anyone with a first registration in OHIP within the last 10 years excluding children <10

OH(Q) Reporting tool/product: Primary Care Performance Measurement Framework (PCPM); Yearly Reports, Theme Reports, Long-Term Care Reports, Home Care Reports

Type: N/A

External Alignment: N/A

Other reporting: N/A

Accountability: N/A

Other Relevant Information

Data source / data elements:

Data provider: ICES

Data source: Registered Persons Database (RPDB)

Limitations / Caveats:

- Does not capture patients whose date of last contact was not within 7 years of index

Comments:

- Excludes Palliative care patients identified from hospital and physician billing claims data. Please see Appendix C for classification and billing codes.

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 Enrollment
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
OH(Q)	Ontario Health (Quality)
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

Opioid Prescribing

TERM	DATA SOURCE(S)
Percentage of non-palliative care patients who have been dispensed an opioid prescription (excluding opioid agonist therapy) within the last 6 months	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	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	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	DAD; OHIP; RPDB; NMS

Antibiotic Prescribing

TERM	DATA SOURCE(S)
Rate of oral antibiotic initiation per 1,000 encounters among patients 66 years of age and older within a 6-month reporting period	OHIP; ODB
Percentage of oral antibiotic dispenses longer than 7 days duration among patients 66 years of age and older within a 6-month reporting period	OHIP; ODB

Patient Demographics

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; DAD
Number of Adjusted Diagnosis Groups (ADG)	OMHRS; DAD

Chronic Disease Conditions

Percentage of patients with hypertension	**OHIP; DAD**
Percentage of patients with congestive heart failure (CHF)	OHIP; NACRS; OMHRS; DAD
Percentage of patients with acute myocardial infarction (AMI)	OHIP; DAD; SDS
Percentage of patients with mental illness	OHIP; DAD
Percentage of patients with diabetes	OHIP; ODD
Percentage of patients with various health conditions by the physician	OHIP; NACRS; OMHRS; DAD
Percentage of patients with various health conditions by the group	OHIP; NACRS; OMHRS; DAD
Percentage of patients with various health conditions by the LHIN	OHIP; NACRS; OMHRS; DAD

Health Services Utilization

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)	DAD
Rate of hospital admissions for CHF per 1,000 patients (adjusted)	DAD
Rate of hospital admissions for COPD per 1,000 patients (adjusted)	DAD
Rate of hospital admissions for diabetes per 1,000 patients (adjusted)	DAD
Rate of hospital admissions for asthma, CHF, COPD and diabetes per 1,000 patients (adjusted)	DAD
Percentage of hospital readmissions (within 30 days) of admitted patients (adjusted)	DAD
Percentage of hospital readmissions (within one year) of admitted patients (adjusted)	DAD
Percentage of visits by patients to own physician (continuity of care)	OHIP; NACRS; DAD; IPDB
Rate of visits to cardiologist per 1,000 patients (adjusted)	OHIP; NACRS; DAD; IPDB

Rate of visits to respirologist per 1,000 patients (adjusted)	OHIP; NACRS; DAD; IPDB
Rate of visits to psychiatrist per 1,000 patients (adjusted)	OHIP; NACRS; DAD; IPDB
Rate of visits to endocrinologist per 1,000 patients (adjusted)	OHIP; NACRS; DAD; IPDB
Rate of visits to general internist per 1,000 patients (adjusted)	OHIP; NACRS; DAD; IPDB
Rate of visits to non-specified specialist per 1,000 patients (adjusted)	OHIP; NACRS; DAD; IPDB
Rate of visits to any specialists per 1,000 patients (adjusted)	OHIP; NACRS; DAD; IPDB
Rate of visits to specified and non-specified specialists per 1,000 patients by physician (adjusted)	OHIP; NACRS; DAD; IPDB

Chronic Disease Prevention and Management

Diabetes Management

Percentage of patients with diabetes with two or more glycated hemoglobin tests within the past 12 months	**OHIP; RPDB; ODB; DAD**
Percentage of patients with diabetes with at least one retinal examination within the past 24 months	OHIP; RPDB; ODB; DAD
Percentage of patients with diabetes aged 66 and older and prescribed statin	OHIP; RPDB; ODB; 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; ODB; 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; ODB; DAD

Cancer Screening

Percentage of female patients aged 21 to 69 who had a Pap smear within past three years	**OHIP; RPDB; OCR**
Percentage of female patients aged 50 to 74 who had a mammogram within past two years	OHIP; RPDB; OCR; OBSP
Percentage of patients aged 50 to 74 who had a FOBT/FIT within past two years	OHIP; RPDB; OCR

Percentage of patients aged 50 to 74 had a colonoscopy within past 10 years	OHIP; RPDB; OCR
Percentage of patients seen aged 50 to 74 who had a FOBT within past two years, flexible sigmoidoscopy within five years or a colonoscopy within the past 10 years	OHIP; RPDB; 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
K092A*	Virtual Palliative Care Consultation-Telephone
K093A*	Virtual Palliative Care Consultation-Video
K094A*	Virtual Palliative Care Support-Telephone
K095A*	Virtual Palliative Care Support-Video
CIHI DAD patserv	Description
58	Palliative Care
CIHI ICD10 code	Description
Z515	Palliative care

*New palliative care codes for virtual consults. Effective July 1, 2021, new virtual palliative care services are eligible to be submitted. These fee schedule codes are effective for services provided between March 14, 2021 and September 30, 2021.